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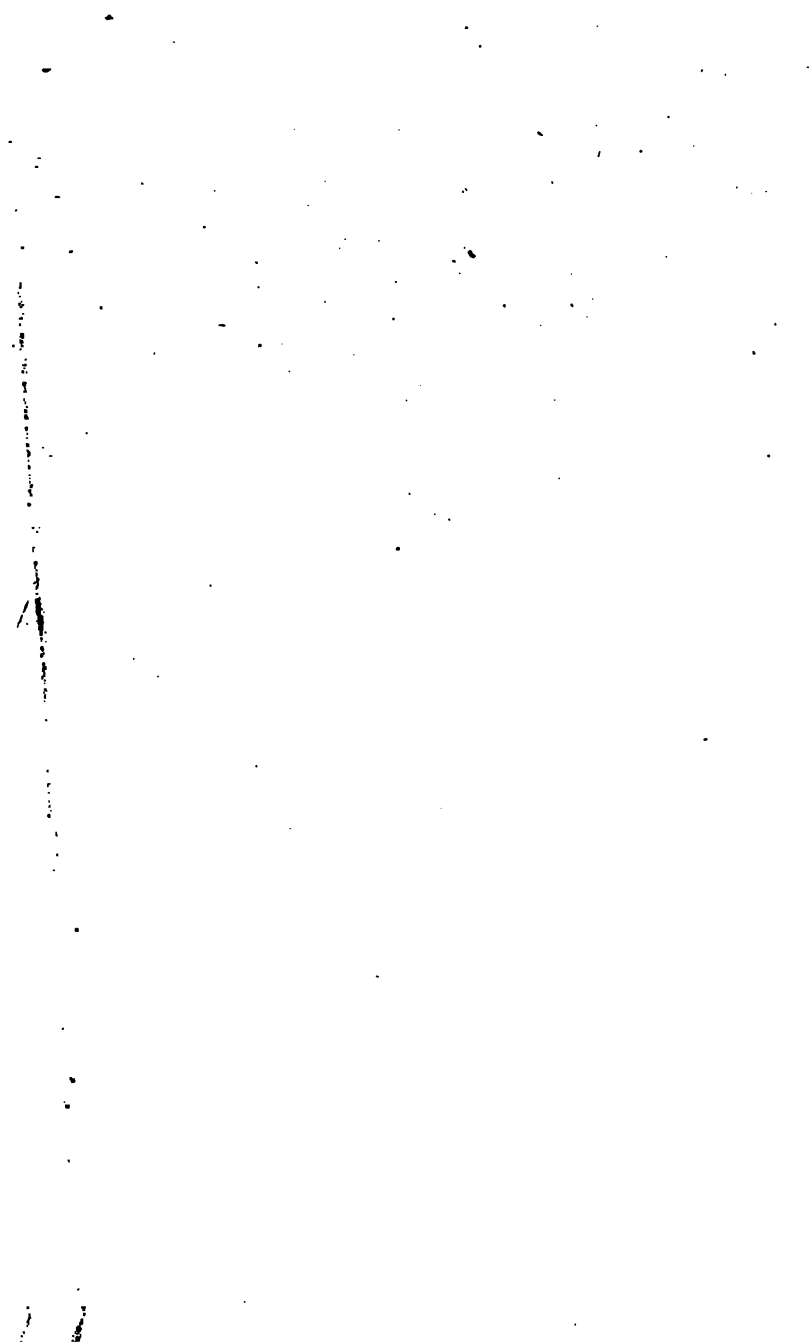
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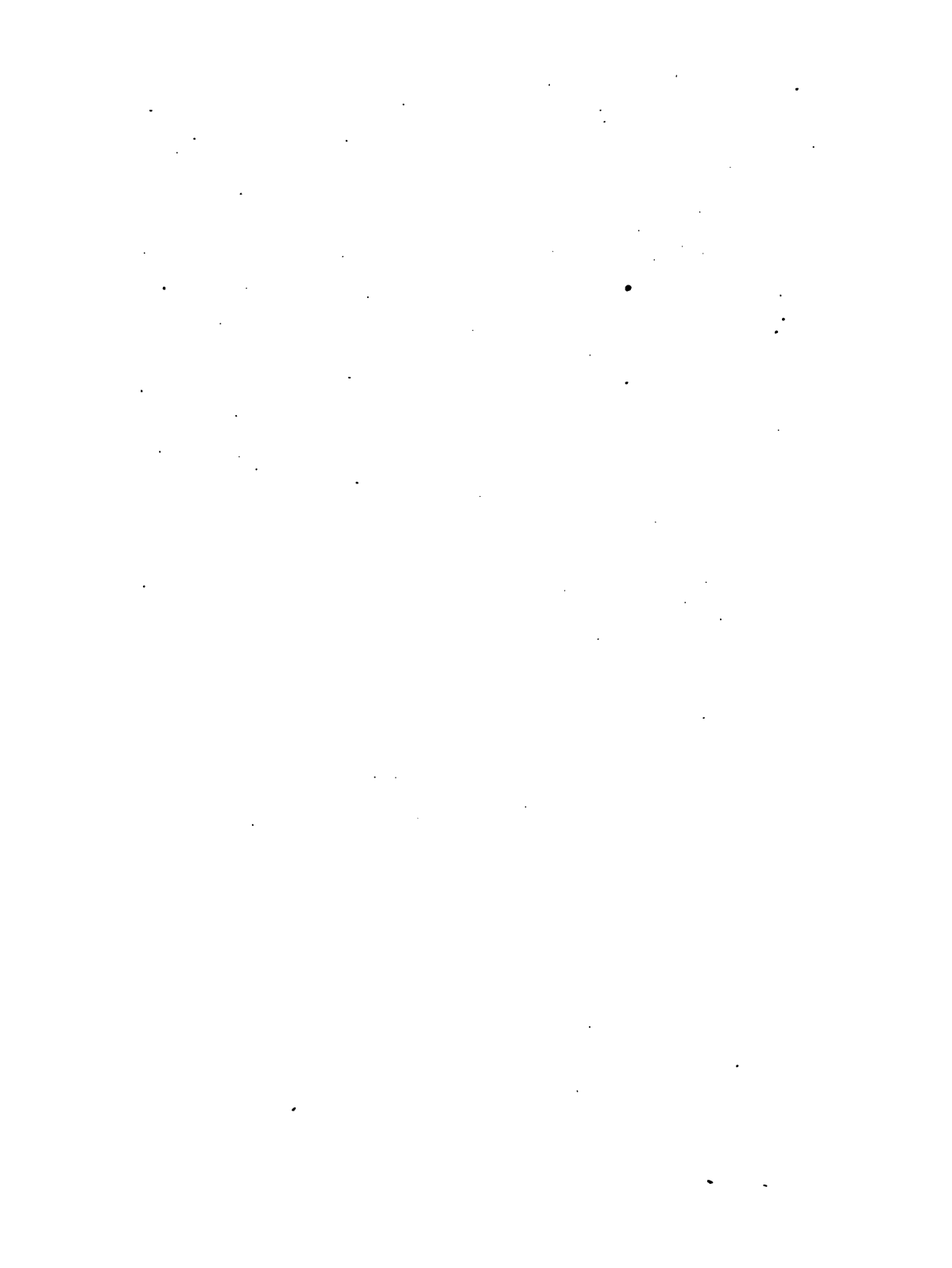
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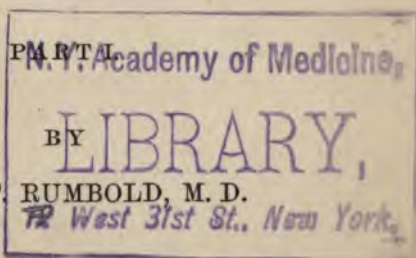
CHRONIC CATARRHAL INFLAMMATION

OF THE

NOSE, THROAT AND EARS.



THOS. F. RUMBOLD, M. D.



ST. LOUIS.

GEO. O. RUMBOLD & CO.

1880.

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TO

HON. FRED. T. LEDERGERBER,

AS A TOKEN OF REGARD FOR HIS KIND APPRECIATION,

THIS SMALL VOLUME IS INSCRIBED.

THOS. F. RUMBOLD.

PREFACE.

During the last twenty years, I have made the Hygiene of Catarrh a constant study. I had been but a few years in the practice of this specialty, when I perceived that the successful management of this most common and tenacious complaint depended on the faithful observance of the laws of health by my patients. I also soon found that even after they had recovered as completely as it was possible for them to do, the continued observance of these hygienic rules were essential to the maintenance of their health.

It is absurd to expect that a patient can be successfully treated while he continues to violate the laws of health. One might as consistently ask a physician to cure him of a burn, while he continues to expose himself to the fire, as to ask to be relieved of a catarrh while he neglects to employ the means to prevent its cause. The beneficial effects of the observance of the laws of hygiene is especially noticeable on young catarrhal subjects, a large number of whom will recover without other aid.

For these reasons, I commenced in 1862, to give such rules to my patients, as observation taught me were beneficial, in guiding them through those seasons of

the year in which they were most liable to take cold; these I have given in the form of chapters. To these chapters I have added several others on Sanitary Measures, embracing the following subjects: Cleansing the nasal and aural passages; care of the teeth; attention to the surface of the body; the mental and physical effects of tobacco, and what should be done in the event of a cold being taken.

It has been my aim to simplify, as much as possible, the methods of cleansing the inflamed mucous membrane, but I have not sacrificed thoroughness for simplicity, nor have I sacrificed mildness for any other quality.

I do not claim that what is written here is new, but I do say, that it has not been given with sufficient detail and earnestness by any writer on this subject. Some may think that I have been too prolix on some points, but now that my book is in type, I fear that I have not been as definite as the importance of the subject demands.

T. F. R.

1225 WASHINGTON AVE.

Sept., 1880.

CONTENTS.

	PAGE
PREFACE	vii
INTRODUCTION	25

HYGIENIC MEASURES.

CHAPTER I.

THE IMPORTANCE OF PREVENTING COLDS	30
--	----

CHAPTER II.

THE HEAD—Its Protection During the Day; Night-caps; The Hair; Shampooing	33
---	----

CHAPTER III.

WRAPPINGS FOR THE NECK—Furs; Shirt Collars . . .	38
--	----

CHAPTER IV.

CLOTHING	40
--------------------	----

CHAPTER V.

FREQUENT CHANGES OF THE UNDER-CLOTHING . . .	47
--	----

CHAPTER VI.

THE FEET—Stockings; Boots, Shoes and Slippers; Elastic Garters; Foot-bath; Inunction to the Feet; Cool Water for the Feet	49
---	----

CHAPTER VII.

COLDS INCURRED BY MEANS OF DRAUGHTS, NIGHT-AIR AND BY PETTY ACTS OF COMMISSION AND OMISSION . .	54
--	----

CHAPTER VIII.

TEMPERATURE, VENTILATION, ETC.—Temperature of the Bed-room; Ventilation of the Bed-room . . .	57
--	----

CHAPTER IX.

DIET AND STIMULANTS	60
-------------------------------	----

CHAPTER X.

EXERCISE	62
--------------------	----

CHAPTER XI.

DISPOSITION OF THE MIND	63
-----------------------------------	----

SANATIVE MEASURES.

CHAPTER XII.

CLEANSING OF THE NASAL AND PHARYNGO-NASAL PAS- SAGES BY PATIENTS	68
---	----

CHAPTER XIII.

REMOVAL OF HARDENED SECRETIONS FROM THE NASAL PASSAGES	77
---	----

CHAPTER XIV.

CLEANSING OF THE EARS	107
---------------------------------	-----

CHAPTER XV.

THE TEETH	120
---------------------	-----

CHAPTER XVI.

BATHING	127
-------------------	-----

CHAPTER XVII.

APPLICATION OF OIL TO THE SURFACE OF THE BODY . .	130
---	-----

CHAPTER XVIII.

TOBACCO—ITS MENTAL AND PHYSICAL EFFECTS—

- 1st. Tobacco produces an exhilarating effect on those
individuals only who have acquired the Tobacco
habit 141
- 2d. The pleasurable effect arising from the use of To-
bacco is not experienced except during the time that
it is depressing the system 143

3d. It is quite questionable whether the exhilaration following the use of Tobacco causes the consumer of it to enjoy life to a greater degree than do those who do not use it	144
4th. The congestion occasioned by the effect of Tobacco on the mucous membrane of the superior portion of the respiratory tract, resembles, in many respects, the congestion resulting from the effects of a cold, and, like the effects of a cold, some of its effects are transitory and some are permanent	147
5th. The local effect of Tobacco on the mucous membrane of the Nose, Throat and Ears, is as predisposing to Catarrhal disease, as is inefficient and insufficient clothing in the case of females	150
Table—Number of patients treated from 1866 to 1879, inclusive	152
6th. The local effect of Tobacco on the mucous membrane of the superior portion of the respiratory tract, causes a more permanent relaxation and congestion than any known agent	155
7th. As Tobacco depresses the system while it is producing its pleasurable sensation and as it prepares the mucous membrane (by causing a more permanent relaxation and congestion than any known agent) to take on Catarrhal inflammation from even slight exposure to colds, it should require no further evidence to show that its use ought to be discontinued by every Catarrhal patient. The only question remaining to be answered is, shall its use be discontinued at once, or shall the victim "taper off" in his endeavor to become master of himself?	157

CHAPTER XIX.

COLDS	164
-----------------	-----

INTRODUCTION.

Chronic catarrhal inflammation of the mucous membrane of the Nose, Throat or Ears is a disease that requires a different management from most other diseases. The reason of this is that the patient's daily customs, habits and dress have a controlling influence on the production or prevention of the complaint.

In the early part of 1868, I had a number of patients who frequented the skating rink. In a large percentage of them, it was impossible to do more than to alleviate their prominent symptoms. In the hope of enabling me to treat them more successfully, I commenced to read over my memoranda of a few interesting cases that I had treated during the previous five years; while doing so, I noticed for the first time a surprising uniformity of expression—voluntarily made by the patients—concerning the causes that usually aggravate the disease; the care that they should take of themselves; the amount and kind of clothing that should be worn, and the best methods to relieve a fresh attack of cold in the head or throat.

The subject of the cause and prevention of the disease, had been gradually forcing itself upon my atten-

tion for several years. Indeed, it was in consequence of its supposed importance, that I commenced to make these memoranda. Under these circumstances, the conclusion was forcibly impressed upon my mind, that one of the reasons for my failure in the skating rink cases, and in other cases similarly exposed, was owing to the continued violation of the laws of health. My experience from that time to the present, has proven that in this I was correct. Since I have required my patients to strictly observe these laws, my anticipations concerning the benefits to be derived therefrom have been fully realized.

All patients should so assist their medical adviser, that their recovery be made as speedy and permanent as possible. With the catarrhal patient, this assistance is absolutely indispensable, recovery without it being impossible. Although a large majority of patients fully appreciate this, yet many of them are totally ignorant of the measures that should be employed, or are uncertain as to the methods of employing them. For this reason, each patient, at his or her first visit, should be instructed as to the necessity of the observance of such hygienic and sanative measures as are suited to their individual cases. These instructions should relate to the importance of avoiding colds; to the means of protecting the head, neck, body and feet; to the danger from exposure to draughts and night air; to the temperature and ventilation of the sleeping room; to the kind of bath that may be

used, and how and when to use it; to the danger of taking cold from cold feet, and how to maintain the feet warm when they are habitually cold; to the proper kind of diet and stimulants; to bodily exercise, and when it should be taken by those who are in a weak condition; to the importance of controlling the disposition, if it is irritable; to the necessity of maintaining the nasal and aural passages in a clear condition, if the catarrhal secretions in these organs are excessive, and the methods to be employed to accomplish this; to the great importance and necessity of discontinuing the use of tobacco; to the importance of arresting the decay of the teeth, and the removal of unsound ones; to the course to pursue at such times as they have taken a cold; and to any other matter that may be necessary to their individual case, that will tend to regain and preserve health. It will seldom happen that any one patient will require instructions regarding every one of these points of conduct, but a greater portion of them will be required by every catarrhal patient.

My experience leads me to affirm positively, that unless catarrhal patients so clothe themselves that they will lessen, to a great degree, the severity of recurring colds, and so control their daily customs and habits that their health will not be impaired thereby, a local or constitutional treatment, or both, will not hold the disease in abeyance. It is only in the observance of hygienic and sanative measures that therapeutic measures can be employed with success.

It is well known that the catarrhal condition establishes a susceptibility to renewed attacks of cold; because of this susceptibility, and the consequent liability of the membrane to be affected on exposure, which at the first would not have acted seriously, the dependence upon medicines alone must result in failure in the greater number of cases. It is evident that medicaments cannot ward off colds from catarrhal patients; this is to be accomplished by conforming to rules that pertain to the general health of the body. But it is equally evident that the observance of these rules cannot give immediate relief to an irritation caused by morbid secretions, or to a pain occasioned by a local congestion; this, on the other hand, is to be accomplished by remedies locally applied. It follows, therefore, that the full or complete treatment of this disease requires that therapeutic and hygienic measures should be combined. The benefit to be derived from the first of these measures, is from local application and internal administration; from the second, which is the one now under consideration, by preventing further injury to the mucous membrane through repeated attacks of cold.

It should not be expected that a chronic disease, originating from the repeated violation of the laws of health, either through ignorance or willfulness, can be eradicated while the patient continues to violate these laws. Not only must these violations cease, but such measures must be instituted that will prevent the continuance of the diseased action already set

up, in which event the reparative processes will in time restore the inflamed membrane to its normal condition; but this restoration cannot be completed in a few weeks, nor in a few months, simply because the changes in the mucous membrane, brought about by several years of continued congestion, are too great to be affected in so short a time. It is just as impossible to get rid of this disease in a short time, as it was to acquire it in a short time. It required time for the congestion to bring about the condition called chronic catarrhal inflammation, and it also requires time for the reparative processes to undo or to eradicate this condition. For this reason, the observance of hygienic measures must be continued, not only during the few weeks, or may be the few months in which the local and constitutional treatment is being employed, but it must be continued for several years thereafter, or so long as there is a susceptibility to take cold.

It is seen, that of the measures necessary to effect the cure of this complaint, the importance of those relating to hygiene, is equal to, if not greater, than those relating to therapeutics.

HYGIENIC MEASURES.

CHAPTER I.

THE IMPORTANCE OF PREVENTING COLDS.

It is not always possible to measure the effects of what is too generally regarded as a very trifling matter, a common cold. If it were possible to ward off or cut short every cold, a large catalogue of diseases resulting therefrom would be prevented.

The history of every case of chronic catarrh attests that the complaint commenced with colds in the head, and that the disease *grew* upon the patient almost imperceptibly, the first colds being so trivial in character as to attract but little attention, and hence they soon passed from memory. It is worthy of special note, that at the inception of the complaint it required a great deal of exposure to render patients susceptible to colds, but as the disease progressed, they took cold with but little if any exposure. These facts show that the repetition of colds have the effect of not only rendering the mucous membrane very much more susceptible, but of its becoming more seriously affected thereby. This is very clearly demonstrated by the longer continuance of each attack, and by the intervals between them becoming shorter, until they are obliterated altogether— a fresh cold

coming on before the previous one has entirely disappeared. At this stage of the disease, the sensitiveness of the membrane is not unfrequently increased to such a degree that the slightest draught of air, or even a fall of the barometer, without an exposure to an out-door atmosphere, suffices to occasion an attack so severe as to involve the entire respiratory tract.

For this reason the prevention of colds is of paramount importance to the patient. It should engage his earnest attention; if he accomplishes this, the successful treatment of his complaint is assured; if he fails, the disease will, in all probability, extend to other portions of the respiratory tract, or to the auditory apparatus in the face of every therapeutic measure that can be instituted.

Of course, the prevention of the recurrence of a cold is frequently a very difficult undertaking, especially in those patients in whom the catarrhal inflammation has existed for ten, twenty or more years, as the condition of the mucous membrane, in these patients, invites a renewal of colds; *i. e.*, it is affected by a condition of the atmosphere which, in the early part of the disease, would not have constituted an exposure. This excessive susceptibility of the mucous membrane usually disappears under the combined influence of hygienic and therapeutic measures; the patient gradually becomes less liable to take cold, and the prominent and urgent symptoms of the complaint gradually fades away.

This improvement may take place in the young

without the use of therapeutics measures, but it cannot do so without the aid of hygienic measures.

The importance of preventing the recurrence of colds, gains weight when it is understood that with the young especially, the inflamed membrane will, in the course of time, recover its healthy condition if it is protected from repeated attacks. In other words, if patients could be so situated that they would not take another cold, they would recover—slowly of course—with but little if any medical aid.

CHAPTER II.

THE HEAD—ITS PROTECTION DURING THE DAY.

The hat that is usually worn by men and boys during the day is a sufficient protection against the inclemency of the weather. It is to be regretted that females as a class do not use the same precaution, for with them the covering for the head, even in severe weather, is generally made to conform to fashion to the exclusion of comfort and the detriment of health.

A twenty-five-dollar straw hat, such as is usually worn by ladies, perched on the upper and rear portion of the head of a young female patient, whose ears require to be stuffed with cotton to protect them from the cold winds, whose mouth must be opened to allow respiration, whose nose requires the frequent application of a handkerchief, whose cough is the harbinger of her arrival, and whose hollow cheeks and weak voice indicate that her catarrhal disease is making rapid inroads upon her system, may be fashionable and stylish, but it certainly is not conducive to health. The inappropriateness of such a hat (?) for such a patient, would indicate either a great ignorance of the laws of health, or a very great indifference to the consequences of their violation. In

disregard of the teachings of experience, an opportunity for the inception and progress of the disease is constantly being given by this class of patients, in this as in other matters of dress, in the observance of the inexorable demands of fashion.

The proportion of surface of the head of a woman that is covered by an ordinary hat, as compared with the amount of surface covered by the hat in the case of men, is certainly not more than one-half, and with the fashionable hat—which is many times made of straw or other open material—not more than one third. The fashionable hat, of the present day, is so placed on the head as to touch with two or three *points* only, so as practically to form no protection to the head, giving the cold winds a fair sweep between the top of the head and the under portion of the hat.

No style of bonnet that I have observed during the last few years, can give the requisite protection, on a blustry day, to the ears and neck of a catarrhal patient.

Ten winters ago (1869), I observed a few ladies, who had the good sense, as well as the good taste, to cover their heads with a black or brown velvet hood. This hood was quilted—not heavily—and was so made that it covered the whole of the head, the ears and the back and sides of the neck. Around its border, that is, on its front, sides and back, it was trimmed with brown fur, which, though it did not make it warmer, added to its beauty. There can be no doubt that this garment will afford ample

protection, from the cold winds that usually prevail during our fall, winter and spring months.

A nubia can be so wrapped around the head, ears and neck as to protect the wearer nearly as well as the hood mentioned. It should be wrapped over the top of the head and under the chin from one to three times, and several times around the neck, according to the severity of the weather; the hat that is usually worn, may then be placed over it. With this protection to the head, ears and neck, and the remainder of the body proportionately as well clothed, a few hours walk or ride in a sharp frosty atmosphere, will not only be enjoyable but invigorating.

NIGHT-CAPS.

A covering or cap for the head, during the hours of sleep, is as essential for comfort and protection as is bed-clothes for the body. That a strong, hearty individual may not require the protection of a night-cap, may be admitted, but it does not follow that a catarrhal patient, whose bane of life is the liability to take cold almost without an opportunity, should not protect his or her head in this way, any more than it follows that the sick should refuse to take medicine, because those who are in good health not only do not need it, but would be injured by it.

I have inquired of many catarrhal patients for their reasons why they did not wear a night-cap, as they claimed, with much earnestness, to have been watchful of every source from which they might take a cold,

and to have taken every precaution to prevent one. Some replied that they had not taken the matter into consideration; others, that they did not think that on account of the protection from their room it was necessary, while still others answered that they had been informed that it would render them more liable to take cold on getting out of bed in the morning. The conclusion to be drawn from the last answer is, that protection should not be given to the weak, because excess of covering has a weakening effect upon the strong.

Every infant, up to its eighteenth month, should in all seasons of the year, have its head protected by a light cap during the day, and a heavier one during the night, and every child, up to its tenth year, should wear a night-cap during the fall, winter and spring months. Nine-tenths of the earaches, and of the attacks of croup and sore throat, grow out of the neglect of this very simple precaution. The dangers of an earache are very frequently underrated. "Of course the earache is a painful complaint, but children will outgrow it; they always do." Such expressions are made by those persons who do not know that four-fifths of our mutes have lost their hearing from earaches during their infancy.

THE HAIR

Nature's effort to make the hair a means of protection to the head, should not be thwarted by the use of the scissors. The hair should not be cut so short that it can scarcely be parted. This is an undue ex-

posure of the head. Male patients very frequently commit this grave error. Females almost universally go to the other extreme. They wear their hair of such a length, that its massive coils become a burden and a frequent cause of severe headache; those who do not possess hair enough of their own growing, to form a mass as large as a child's head, procure an additional coil to effect this increase. The practice of cutting the hair very short, and of wearing it very long, should be discontinued.

SHAMPOOING.

This is injurious to the scalp and the hair; it removes every particle of oil from the head, causing the scalp to become dry and full of dandruff, and the hair to lose its glossiness and natural color, generally giving it a faded and a lighter appearance; but worse than this, on account of the absence of the oil, the patient is more liable to take cold, on even a slight exposure of the head to a draught of cool air.

The application of oil¹ to the head is very beneficial to the scalp and the hair. It should be well rubbed on about once a week, and oftener if the hair has a tendency to become dry. This practice will lessen the liability to colds after head-washings and hair-cuttings.

1. Vaseline will be found very useful for this purpose.

CHAPTER III.

WRAPPINGS FOR THE NECK.

FURS.

The fur neck-wraps, worn by males, and the fur capes worn by females are injurious. They are so close that they excite perspiration of the parts covered, and thus render the wearer more liable to take cold. All close wrapping of these parts tend to increase the congestion of the mucous membrane by their excessive warmth. Light, loosely woven woolen wraps are good and necessary during cold weather, for both male and female patients. If these do not keep the neck and upper portion of the chest warm enough, then an additional woolen under-vest should be worn.

SHIRT COLLARS.

Constriction of the neck should be avoided. I have frequently had patients who complained of a sense of dizziness on the inclination of the head to the right or left shoulder. With a respectable minority of them, it was found that this symptom was occasioned solely by a constriction of the neck by the collar or the shirt band. I have often observed the collar fit so close, that it was with difficulty that a finger could be inserted between it and the neck. Of course a constriction even to a less degree than this will pre-

vent a free circulation of the blood in the head, and will not only sustain but aggravate any congestion that may exist in the mucous or other tissues.

Shirt collars and shirt bands should fit the neck so loosely as to allow the four fingers of both hands to be inserted between them and the neck.

CHAPTER IV.

CLOTHING.

Although we cannot at all times control the temperature of the atmosphere surrounding us, yet, if we protect the body with the proper kind and amount of clothing, a low temperature, instead of its being a detriment, will prove to be the most favorable condition for the promotion of mental as well as physical vigor; therefore, patients who are enjoying good health, having no symptoms of disease, except those which are occasioned by their catarrhal affection, need not discontinue their usual occupation, even if, during the cold and damp seasons, they are exposed to sudden and great changes of temperature, but they need to take great care that their bodies are well protected by clothing.

During our cold seasons, the air within our buildings is warmer than the air without, and it is impossible to avoid the change from the one to the other, but enough can be done to prevent any injury from the sudden transition to the colder atmosphere, by covering the body, in addition to the usual outer-garments, with a sufficient amount of under-clothing before leaving the sleeping-room, and, in very cold weather, by putting on a proper amount of over-clothing before going out of doors. It is astonishing

how large a number of persons there are who neglect to take this very simple precaution. Many, if spoken to on the subject, will triumphantly say that they wear a large and thick chest protector! But the largest, even, of these scanty garments cover the front portion only of the lungs, leaving the stomach, and the back and sides of the body, as well as the upper and lower extremities insufficiently clad.

Deficient clothing, colds, and chronic catarrh of the superior portion of the respiratory tract, bear the relation to each other of cause and effect. We would have no colds without a deficiency of the covering of the body; we could have no chronic nasal catarrh without a frequent repetition of colds; therefore, the maintenance of the body in a warm, equable temperature, is of the greatest importance, and no effort, on the part of the patient, that will effect this, should be neglected.

The fact that patients have acquired a liability to take cold on the least exposure, plainly indicates the necessity that they should protect the body by clothing it more warmly than they have been accustomed to do, until such liability no longer exists. This advice is applicable to female patients especially, because, while they are in an enfeebled condition, taking cold more easily on account of their catarrhal complaint, they continue to follow, in the matter of dress, the customs of their sex in clothing themselves with a kind and form of dress that is imperfectly adapted to ward off the injurious effects of sud-

den changes of temperature, even during *cool* weather. Every time that a lady, whose garments below her waist consist chiefly of loose skirts, passes the corner of a street on a blustery day in winter, she is chilled up to her knees in a few seconds, the warmth of her body being almost instantly blown away from her skirts. It may be that a strong woman can undergo such exposure with impunity, but there is no doubt as respects a catarrhal patient being injured by it.

By the way, one of the most remarkable circumstances connected with dress in general, is the difference between the form and amount of clothing that are usually worn by woman, and the amount and form that are worn by man, as compared with the strength or power of resistance in the sexes. If the lighter garments were placed on the body of the sex that possessed the greater strength or power of resistance to external atmospheric influences, there would be nothing remarkable about it; but these conditions are reversed, the weaker sex have not only the less amount of clothing, but that form of it which gives the less protection.

Most women are conscious that they, as a class, do not possess the bodily strength to resist the effects of inclement weather equal to that of men, yet notwithstanding this, they clothe themselves with garments that are made of such light material, and which enwrap them in such a loose manner, that they do not receive more than from one-third to one-half

of the protection that an adult male has from his garments. I am quite certain that if the strongest man, were to clothe himself in the same form, kind and amount of garments that most women do, he would soon be laid up with some kind of sickness originating from the exposure. Although every weak, illy-clad female will readily admit this, yet it is almost as difficult to persuade her to put on a sufficient amount of the right kind of clothing, as it is to persuade an old tobacco smoker or chewer to give up "the weed." The exclamations and protestations of my patients are so nearly alike, that it would seem as though they had agreed in convention to repeat the same words. On being informed of what clothing they should put on, in addition to their usual garments, they say: "Oh I can't wear two, three or four suits of underclothing; it would kill me to carry such a load. I tell you I can't do it. I would do almost anything to get rid of this horrid cough and headache, but I can't wear that number of suits. Why, I tell you it would kill me outright! and I might as well die one way as the other! And besides, how would I look? I would have no shape. I would be as broad as I am long. I do not have a dress that I could wear; every one of them would be too small!" There are a few patients who cannot be persuaded to clothe themselves properly, and in order that they may continue under medical treatment, will make promises—which will be repeated as often as the subject is mentioned—to take the utmost care to avoid

exposure to night air, draughts, etc. Other results than an unfavorable one need not be expected from the treatment of such a case, for, in the great majority of instances, these promises are not kept, partly on account of their inability to do so, being prevented by unexpected circumstances, but many times on account of inattention, a habit of some age in those patients. But such unreasonableness is not usual; a large majority, although protesting at the time that the subject is first mentioned, do put on the requisite number of suits, and, after they have worn them for a few weeks, express themselves as pleased with the additional warmth. The beneficial effects are soon so plainly manifested, that they become such thorough converts to the principle of warm dressing, that they do not forget nor neglect to put on the suit each succeeding fall, and wear them during the whole winter.

Patients of both sex and of all ages, should wear in all seasons, fine stocking-knit drawer and vest, such as is usually found in furnishing stores. The material of which these garments are made, consists of about one-third wool and two-thirds cotton. This proportion of cotton to wool is more pleasant to wear than either all-cotton or all-wool goods. Cotton garments produce a cold sensation at such times as the body is covered with perspiration, while woollen garments do not absorb the moisture as fully as cotton does; whereas, with the mixture in the proportions named, the cotton absorbs the moisture, while the wool pre-

vents the garments from adhering to the surface of the body.

When the weather becomes cold in the fall, a heavier suit should be put on over the thin stocking-knit suit already on the body. As soon as the thermometer ranges in the neighborhood of 15° F., female patients should put on a third suit as heavy as the second; and if at any time they are to go on a journey in the railroad cars, or are to be exposed for several hours during the coldest winter months, a *fourth* suit should be donned.

These supplementary suits should be made of pure wool, cut and sewed from blue, yellow, white or gray flannel. Many female patients, who were confident that they could not endure this weight of clothing, were astonished to learn that these four suits weigh less, by nearly half, than a fashionable walking dress, and, that the first three suits are less in weight than the flannel skirts that they usually wear in cold weather, and also less than their felt and cotton skirts. There is no doubt that patients feel better able, by reason of their limbs being left free and unwrapped, to carry heavy skirts suspended from their waist; still this is far from counterbalancing the bad results arising from a loose and open mode of dress, which, when put upon the scales, has more than double the weight of material in them than is required to keep the body warm, while at the same time, they give less than half the protection.

Children, especially girls who have arrived at the

tenth year, are not, as a general thing, sufficiently clad either about the neck and upper portion of the chest or on the extremities. The continual exposure of the neck of young girls, is almost sure to generate a catarrhal complaint, even in those of strong constitution, and it will certainly maintain, if it does not increase, any inflammation that may exist in the head or throat. As the secretion from the nasal passages may be entirely overlooked in the case of children, enlarged tonsils may be the only thing complained of by them, or mentioned by their parents. The fact that a child has enlarged tonsils, is an evidence that it has suffered, for several years, undue exposure from the want of the proper kind of clothing, and is an indication that it should be placed under medical treatment at once.

Those children who are afflicted with large tonsils, are liable to suffer a gradual decrease of their hearing, and to be seriously affected with quinsy, for the reason that nearly every cold that attacks them makes itself felt in the throat, and is liable to result in the formation of an abscess in one or both tonsils, or, should they have an attack of diphtheria, scarlet fever, measles or any other disease, which in its inception or progress bears any special relation to the throat, the liability to serious complication in this region is much increased.

CHAPTER V.

FREQUENT CHANGES OF THE UNDER-CLOTHING.

Weak patients should change their under-clothing as seldom as possible, as every change robs the surface of a portion of the oil that is necessary to keep the skin soft and lubricated, and to make it a non-conductor of heat. When the skin is in an oily condition, as is found in the healthy, the liability to be affected by colds is much less than when it is in the rough and dry condition.

The oily state of the surface, as is usually found with the healthy individual, is maintained by many thousands of sebaceous glands that are located in the integument; when a patient is in a weak condition from catarrhal disease, these glands do not supply this important non-conductor as abundantly as the skin requires it. For this reason, those patients that are thin in flesh and on the surface of whose body there is little or no oily material, should not change the stocking-knit suit that is next to the body until it has become soiled, which may be in about one, two, three or more weeks. The weaker the patient, the less frequently should changes take place and the less frequently will they require to take place, as the dry skin does not soil the clothing so rapidly as does the healthy oily skin.

If the suit next to the body does not cause undue

perspiration during the night, it should be worn at this time as well as during the day.

The supplementary suits should not be permanently removed until the weather becomes warm in the Spring. The last supplementary suit—leaving the one thin stocking-knit suit next to the body—may usually be removed about the 15th of June.

Patients must bear constantly in mind that it is far preferable to suffer the temporary discomfort that is occasioned by the presence of the extra suits on occasional warm days, that sometimes occur before the warm weather has permanently set in, than to risk taking a cold by their too early removal. In other words, it is far preferable to bear patiently the inconveniences caused by the heat, than to suffer several days or maybe weeks' sickness, the result of the too early removal of the underclothing.

CHAPTER VI.

THE FEET.

STOCKINGS.

Cold and damp feet are almost certain to induce and aggravate a congestion of the mucous membranes of the head, throat, ears or lungs. The recovery of a patient who has even a slight catarrhal affection will be retarded if the lower extremities are not maintained in a warm and dry condition.

Wearing stockings made of wool will generally cause the feet to perspire; in this condition they are liable to become chilled. Should such be the case a pair of thin cotton stockings should be worn under the woolen. It is well for patients who suffer from cold feet, whether they are damp or not, to wear, during cold weather, a pair of woolen over the cotton stockings. Neither of these pairs need be very thick.

BOOTS, SHOES AND SLIPPERS.

Thin and light boots, and shoes low in the ankles, should be avoided in cold and damp weather. Heavy loose-fitting boots, with double uppers and soles—the latter wide—are the proper coverings for the feet in cold or damp weather.

India-rubber over-shoes should be worn in wet or damp weather only, and should be removed from the feet whenever the wearer enters the house.

Large Library

Slippers should not be worn by either sex during cold or even cool weather. One of the ways in which a cold is mysteriously (?) taken, is to exchange a pair of warm boots for a pair of low slippers. Those who do this, have forgotten that their feet and ankles have been protected all day, and that they have not alone uncovered them, but have placed them in the coldest stratum of air in the room. If they will take the precaution to draw on over the stockings which they usually wear, a pair of heavy woolen socks, the chances for taken a cold from wearing the slippers will be greatly reduced.

ELASTIC GARTERS.

A large majority of females maintain the tops of their stockings in position by means of elastic garters. Girding the limbs in this way is very liable to induce cold feet, on account of its impeding the circulation, the veins being so much compressed by the garters, that the blood cannot leave the limbs as readily as it should do, while the heart forces the blood to them through the arteries, whose walls are firm enough to resist the pressure of the garters. Almost every patient will claim that her garters are not tight, yet most of them will acknowledge, that when the elastics are removed at night, the creases below their knees, caused by the constriction, are deep enough to bury half of the thickness of the finger.

In order to maintain the hose in their place without the aid of garters of any kind, they should be pulled up over the stocking knit drawers, and held

there by elastic straps that have a brass loop at each end, so formed that they will securely retain the hold on the drawers and the head of the stockings. It will require two of these straps for each stocking; one on the inner side and one on the outer side of each limb. The stockings being long enough to come above the knees, more of the limbs are covered in this way, than when they are held up by strangulating elastic or non-elastic garters.

FOOT BATH.

A good remedy for cold or damp feet is to bathe them at bedtime. For many years I have recommended my patients, when taking this bath, that they should, after undressing, wrap a blanket around the body from head to foot (the room being warm); then to sit on the side of the bed and immerse the feet in a sufficient quantity of water, heated to blood heat, to cover the ankles, the blanket being at the same time wrapped around the limbs and foot bath-tub.

The position on the side of the bed has two advantages; one, the patient, in being near the bed, will be able to get under the bedclothes without the loss of the warmed air enclosed around his limbs and body by the blanket; the other, in this position, the body will be more erect than it would be if the person were sitting on a chair, consequently, more of the limbs will receive the warm and moist air from the bath-tub—two adjuncts necessary to a successful foot bath.

After the feet have been in the warm water about

three minutes, they should be raised out of the tub and one pint of boiling hot water poured into the bath; the feet should then be immersed again about three minutes longer, at the end of which time a second pint of hot water should, in the same manner, be added to the bath, and, with the same interval, a third, fourth or more pints should be added, until the water in the bath-tub is as hot as the patient can bear it. After the feet have been in the water, in all, about fifteen minutes, they should be dried by being well rubbed with a coarse towel, and then an inunction of vaseline should be applied with considerable friction. Lastly, they should be covered with a pair of cotton stockings, well warmed. The drying and anointing should be done while the feet are held over the bath-tub and inclosed in the blanket. By the time the feet are bathed in this way, the body will be in a gentle perspiration; they should be allowed to dry gradually, after which the blanket may be removed.

INUNCTION TO THE FEET.

For many years I have recommended the application of inunctions to the feet. It should always be applied to them after they have been bathed in warm water, but it may be applied with benefit in connection with friction alone. This application assists in preventing the feet from sweating and from becoming cold; besides, it has a softening effect on hardened and ingrowing toe-nails. For this purpose vaseline is far superior to any oil, as it does not become rancid even on the feet.

If there is any foetor arising from the feet, salicylic acid grs. v, and hydrate of chloral grs. x, ad ʒj of vaseline, will after a few bathings and anointings correct this condition, except in rare instances.

COOL WATER FOR THE FEET.

Plunging the warm feet into cool water, immediately on getting out of bed in the morning, has frequently the effect of keeping them warm during the day.

CHAPTER VII.

COLDS INCURRED BY MEANS OF DRAUGHTS, NIGHT-AIR,
AND BY PETTY ACTS OF COMMISSION AND OMISSION.

Most persons have been taught by experience that it is dangerous, while they are in an over-heated condition, to remain in a locality where a current of cold air can strike but a limited part of the body, especially the head, neck or shoulders. Many often forget this, not possessing the will to bear patiently for a time the *temporary* discomfort of an over-heating, and for relief, take a seat at an open window. They incur a cold, which, even in the most trifling cases, will be certain to last double as many days as the temporary discomfort of the over-heating would have lasted half-hours, had they retained an unexposed location; and with many persons, a cold incurred in this way may be so serious that its effects may be felt during the remainder of their life, if it does not shorten life itself.

Exposure to night air should be avoided if possible. If compelled to be out at this time, more clothing should be placed around the neck and chest than is usually worn during the day. It would also be well for females, who are to go out in the night air, during cold or damp weather, to draw on over their shoes, a pair of thick woolen stockings, long enough to reach nearly to the knees.

A stay of three or four hours in a hot theater or

lecture room, where the atmosphere is impure, succeeded by a ride in the street cars, or an open carriage ten or twelve squares—equal to an exposure of half an hour—is sure to be followed by an increase of all catarrhal symptoms, unless precautions are taken to ward off a cold by placing extra protection on the head, around the neck, and on the lower extremities. In addition it will be well to protect the hands and wrists in cold weather, the former by woolen mitts the latter by wristlets or pulse warmers, as they are popularly called.

There are many petty acts of commission and omission in the care that one should take of himself, or herself, that are the result of forgetfulness, or, frequently, of carelessness, which are almost certain to originate a cold; the most conspicuous of which are sitting on a stone door-step in a cool evening to a late hour in the night; sitting up late on a cold night after the fire in the room has gone out, then going to bed with cold feet; getting out of bed during the night in bare feet and in night-dress to wait on a child that is sleeping in a cold room; making a fire in the morning of a cold day in undressed condition; standing in an open doorway during cold or damp weather with the head and shoulders insufficiently protected, to speak a *few* words to a friend who is (too slow in) taking his or her departure; stopping to speak to a friend on the sidewalk long enough to allow the feet to become cold and to experience a sensation of cold chills between the shoulders; making a call on a

friend who receives company in a cold parlor, or in a parlor in which the fire is started on your entrance; receiving lessons or giving lessons on a piano in a cold room; seeing a friend out to the gate and then standing there until warned of the impropriety of the act by a sneeze, or "cold streaks" coursing up and down the back. For the protection of those young patients who cannot forego the pleasures of the "parting at the gate," I would recommend that their guardian should have a movable gate constructed and placed in a room adjoining the parlor.

CHAPTER VIII.

TEMPERATURE, VENTILATION OF SLEEPING ROOMS, ETC.

TEMPERATURE OF THE BED-ROOM.

Dr. Horace Dobell, of London, in his excellent work, "Winter Cough," makes remarks on the temperature of bed-rooms, that are so appropriate that I will quote them. He says: "But before leaving the subject of sudden changes of temperature, I must not forget to speak of sleeping-rooms. It is quite astonishing what follies are committed with regard to the temperature of sleeping-rooms. On what possible ground people justify the sudden transition from the hot sitting-room to a wretched cold bed-room, which may not have had a fire in it for weeks or months, it is impossible to say, but it is quite certain that the absurd neglect of properly warming bed-rooms, is a fruitful source of all forms of Catarrh. We cannot too much impress this upon our patients."¹

For those who do not become warm quickly after they go to bed, during cool or damp weather, the bed-clothes should be warmed by a hot smoothing iron, or a warming bed pan, before they retire for the night. This warming operation may be necessary, even if there has been a fire in the sleeping-room all day.

1. Dobell on Winter Cough, London, p. 184.

If a patient is subject to profuse night sweats, the dampened bed-clothes should, on each morning, be removed from the bed, and fresh, well dried *cotton* clothes (linen sheets and pillow cases should be eschewed), supplied in their stead. If the perspiration has been but slight, the bed-sheets alone may be all that requires removal, or even those may be so slightly dampened, that their being placed before a grate fire, will be sufficient to dry them for the next night's use.

VENTILATION OF THE BED-ROOM.

Good ventilation in every room of a house is essential to comfort as well as to health, and of course the bed-rooms of those whose respiratory organs are affected does not form an exception. The greatest care should be taken to maintain the air in this apartment in a pure condition.

There can be no doubt that much of the benefits derived from an out-door or camp life, is due to the supply, during the night, of *good fresh air*. Although deprived of a good soft bed, the healthy as well as the invalid feels refreshed and invigorated after even the first few night's sleep under a tent, the recurrence of colds, if not at once obviated, are reduced in number and in severity. This has been demonstrated time and again, during the years in which over-land trips to California were frequent, and during the late war.

Many patients have informed me that they have frequently experienced an occluded condition of the nasal passages, before arising from bed in the morning. In nearly every one of the patients so com-

plaining, it was found that it was owing to either insufficient protection to the head, or, which was much oftener the case, to the air in the bed-room being vitiated, and in many instances to both causes.

The air in a sleeping room ought to be as pure in the morning, as it is on going to bed at night. In order to maintain this purity, the lower sash of the window ought to be raised, and the upper sash lowered; the former raised one-fourth of the distance that the latter is lowered. The extent to which the sashes should be raised and lowered, will depend on the degree of the external temperature.

If the air from an open window blows directly on the bed, a curtain should be so interposed as to prevent the draught from striking the sleeper, or the bed should be moved out of the draught.

Weak patients should endeavor to sleep as much as possible, but not late in the afternoon, if it prevents them from sleeping all night. Frequently an hour or two hours sleep in the morning, will be more refreshing than several hours during the night. A half an hour's sleep after dinner has usually a refreshing effect.

CHAPTER IX.

- DIET AND STIMULANTS.

A good nourishing diet, consisting of food known to the patient to be especially easy of digestion, is advisable. All long standing cases, in which the disease is complicated with dyspepsia, have learned, that with respect to what they eat and drink, their stomach has a law of its own, which experience has decided time and again cannot be disobeyed with impunity.

Dr. Beard's remarks on the kind of food and fluid that should be avoided in "hay fever," (which is but a nervous complication of nasal catarrh and a sequence of it), are very appropriate. He says: "Those who are specially susceptible to particular substances, those, for example, who cannot digest pork or sausages or pastry, or who are made nervous or sleepless by coffee or alcoholic liquors, or whom certain fruits injure by their mechanical action on the pharynx or through the digestive organs, need no advice to abstain from these things while the symptoms are on them."¹ As a general rule, plain food only, such as is known to add strength to the body, should be taken; all else should be avoided. We should "eat to live," not "live to eat."

"Charcoal crackers," made of flour, sugar and pul-

1. Hay Fever, by Geo. M. Beard, A. M. M. D., 1876, p. 181.

verized charcoal, etc., frequently has a very beneficial effect on the digestion of such patients who suffer from that form of dyspepsia, in which the food in its process of digestion evolves gases, and the fluids become acrid. The charcoal in such instances absorbs the gases, and in this way proves useful.

From two to five of these crackers—each of which is about two inches square—should be eaten immediately after each meal. They are not at all unpleasant to the taste.

Those children that are afflicted with catarrh, whose complexion is pale, and whose mucous membrane is in a relaxed condition, should eat plentifully of animal food. Candies, cake and pastry should be prohibited.

No stimulants should be taken unless prescribed by a physician.

CHAPTER X.

EXERCISE.

To the neglect of physical exercise, may many times be ascribed a general debility of the system, and a torpid condition of the bowels. To many, outdoor exercise—a life in the air and sun light, is not only beneficial, but absolutely necessary. It should not, however, be taken before breakfast, nor at night. Many lady patients, who lead a quiet life, will find that a walk of half an hour immediately after breakfast, will be beneficial to digestion. Horseback riding is a very healthy exercise; it may be taken at any time during the day provided the weather is dry.

A course of gymnastic exercises will greatly benefit all who lead a sedentary or quiet indoor life. I have known several patients, who had not been able to leave their room during the entire winter, to be greatly benefitted by a judicious course of exercises with dumb-bells, pullies, rubber bands, swing, etc; the amount of exercise each day being prescribed and followed as written down, the amount being such as was suited to the physical condition of the invalid. It will procure sleep when other means may fail.

Regularity in taking any kind of exercise is essential to the patients receiving its full benefit.

CHAPTER XI.

DISPOSITION OF THE MIND.

Catarrhal inflammation of the nasal passages invariably commences in the immediate neighborhood of the superior turbinated processes. From this locality it extends, by continuity of structure, and by vascular and nervous connections, to other parts; but first to those parts that are nearest to it, and then in succession, to remoter parts; that is, it does not appear in the middle ear before the mucous membrane of the Eustachian tube has been affected, or in the larynx, before it has affected the pharyngo-nasal cavity and the fauces. In like manner it extends to the sphenoidal and ethmoidal cavities, and to the frontal sinuses.

These cavities and sinuses are situated immediately under the mental portion of the brain; they are separated from it by a very thin plate of bone, but are intimately connected by both blood vessels and nerves. As the blood vessels in chronic cases have for many years been congested to such an extent that they are twenty, thirty or forty times their normal diameter, the nerves accompanying these vessels, as well as other nerves that have a controlling influence on the whole economy, must be affected in some degree, if not in the same proportion. It might very

naturally be expected that they, in turn, should effect changes in the functions of the organs on which they are ultimately distributed. That this is true, is attested by the symptoms of *every* patient who suffers from chronic catarrh, and prominent among the changes is the change in the disposition of the mind. It is very common for such patients to exhibit great irritability, discontent and dissatisfaction, without apparent cause, or at least, without a cause that is equivalent to the degree of change in the mind.

It is not usually considered that it is the province of the physician to give advice concerning the necessity of controlling the disposition of a patient's mind, or of warning him of the injury that may be done, by allowing his ill temper to have full sway, but experience has frequently proven to me that such control is really necessary, or at least, that those patients who do not curb their ill will, do retard their recovery.

It is well known that a chronic disease, affecting any one of the extremities, or any one of the various organs of the trunk of the body, has the effect of producing an irritability of the disposition; then, how much more likely must a long continued inflammation, situated immediately under the mental portion of the brain, produce a change in the disposition of the mind.

Although it does not follow that the pain of a man's corns will be increased by indulging his ill temper, yet, when the irritability of the disposition does assist in maintaining a hyperæmic condition of the flamed parts, then, most certainly, such indulgence

should be curbed. There are many persons whose ill temper depends solely on the distress arising from the catarrhal condition of their nasal passages, and to whom the injunction, "do not give an angry reply," is needed; especially is this advice necessary when their anger is so violent that their face, which is usually pale, is reddened by passion. The increased temporary redness of the face is caused by a retention of the blood; if the integument of the face is reddened by the afflux of blood to its capillaries, what must be the condition of the congested capillaries of the mucous membrane lining the nasal, the ethmoidal-sphenoidal cavities, and also of the blood vessels within the cranium? Certainly this forced injection of the blood vessels, if repeated often, must have an injurious effect on their walls, which are already much reduced in thickness, and weakened in their power to contract, and it must render them more liable to remain in a congested condition.

Many patients find it almost impossible to return a kind or even a civil reply to any inquiry, especially if it be made by a kind and forbearing friend. It seems as though the greater is the forbearance on the part of their friend, the less they fear to offend his feelings, and the less restraint they exercise on their ill temper; while to the comparative stranger, they will return an answer in every way proper, both in tone and words, showing, evidently, that they can control their temper if they desire to do so. One patient informed me that he preferred boarding away

from home, although his relatives were kind to him, yet found it almost impossible to attend to his books, for two or three hours each morning, on account of the annoyance he experienced in having his mother inquire of him concerning his health. Many patients are conscious of this defect, and acknowledge that they ought to control themselves in this respect. This they certainly should do, as it is a flagrant violation of the laws of affection, and an abuse of the feelings of those who have a right to expect a kind reply in return for the many kind offices and the almost agonizing anxiety they have over them, both day and night.

The more a patient allows his temper to run away with him, the more liable he is to be irritable, and if this is continued, a condition of mind will be induced that will so resemble insanity, that his relatives or friends will believe that he is really becoming insane. On the other hand, a kind reply, even to a needless question, most certainly tends to increase a pleasant disposition; besides, it will be a very great satisfaction to kind and indulgent friends and relatives. One kind answer predisposes to another kind answer, and prevents irritation of the nerves, which predisposes to a continuance of the congestion.

That the indulgence of anger does increase the inter-cranial congestion, is evidenced by an increase of the headache, increased tinnitus aurium, by attacks of vertigo and nausea, and by other symptoms which indicate excessive blood pressure within the cranium.

A gloomy condition of the mind should also be resisted. The patient should try to occupy the mind on some subject that is pleasant, and one that will take their thoughts off from the contemplation of their ailment. If the treatment of the local inflammation progresses to a favorable termination, these peculiarities of the mind will gradually disappear.

SANITIVE MEASURES.

CHAPTER XII.

CLEANSING OF THE NASAL AND PHARYNGO-NASAL PASSAGES BY PATIENTS.

Most patients afflicted with chronic catarrhal inflammation should be required to maintain their nasal passages free of accumulated secretion. During the interim of the applications made by the physician, the mucous membrane will be coated. Should this be allowed to remain, it will in a short time, acquire an acrid property, and on account of its acridness it will aggravate the inflammation.

While it is essential to speedy recovery, that the nasal passages be maintained in a clean condition, it is equally essential that the means employed for this purpose should not cause any irritation. A sensation of relief should be experienced immediately succeeding the cleansing operation.

The simplest mode of performing the ablution in question, is by the suction of water and air from the palm of the hand, or from a small sponge, into the nostrils. This manner of cleansing is sufficiently effective, for all patients whose secretions do not become locked in the nasal cavities by reason of their hardness or size.

It does seem as though it would require but little

instruction to enable the patient to successfully perform this operation, aside from the directions given with regard to the ingredients, the strength and the temperature of the solution used; but it will be seen from the description of the method recommended, that the patient might not adopt it, without being so directed.

Fig. 1.



First position of the head, in which the anterior third of the nasal passages is washed by the suction of water and air from the palm of the hand, or from the sponge held in the hand.

During inspiration through the nostrils, the course of the greatest volume of the stream of air that enters these cavities, is not parallel with the bridge of the nose, nor does it pass along the floor of the nasal passages, but nearly between these two boundaries, which is generally at an angle of about 45° with the plane of the forehead. If we keep in mind, that the tendency of the stream of inhaled liquid is to take

the same direction that the air does, and that the water, because it is heavier than the air, will deviate from this course because of gravitation, we have only to place the head in certain positions, to be enabled to wash or bathe the entire surface of these triangular shaped cavities.

Fig. 2.



Second position of the head, in which the middle third of the nasal passages are washed by the suction of water and air from the palm of the hand or the sponge held in the hand.

To reach the anterior third of the nasal cavities, the head of the patient should be inclined forward to such an extent that the plane of the forehead will be in a horizontal position (Fig. 1). In this position the stream from the hand will go upward and forward at an angle of 45° with the horizon, and gravitation will cause a part of the solution to fall on the most anterior portion of the cavities. After the suction of one or two handfuls, the patient should blow the nose, to free it of all liquid and loosened secretions. Continued and hard blowing of the nose

should, however, be avoided, as this is liable to force mucus up the Eustachian tubes, as well as to aggravate the congestion of the inflamed mucous membrane.

To wash the middle third of the nasal passages, the head should be inclined forward, until the forehead is placed at an angle 45° with the horizon (Fig. 2). Then the greater part of the stream of air and liquid will enter the nasal cavities in a vertical direction, striking the upper portions, and gravitation will divert a part of the fluid forward, and a part backward, of the vertical line.

In the third position of the head, the forehead should be placed in a vertical position (Fig. 3); then the stream of air and fluid will enter the cavities at an angle of 45° with the horizon, going upward and backward. Gravitation in this case, instead of causing it to fall forward, as it did in the first position, will cause a part of the solution to pass along the floor of the passages, thus washing the remaining third of the surfaces. Again all liquids and loosened secretions should be blown out. In the first and second positions, the liquid will come out of the nostrils in front; but in the last position, all of it will come out from the mouth.

A friend living in Belleville, Ill., in a letter addressed to me in June, 1877, makes a very good suggestion concerning the employment of a sponge from which to inhale the solution, instead of the hand. I quote by his permission, from this letter. He says :

“Concerning the inhalation from the hand, with the head erect, I find it somewhat difficult to perform. Only one or two years ago, I found a way by which this inhaling process can be performed more easily, allowing any positions desired, even on one’s back. For this purpose, I use nothing but an open

FIG. 3.



Third position of the head, in which the posterior third of the nasal passages is washed ; and also the upper surface of the soft palate and the posterior wall of the pharyngo-nasal cavity.

sponge (the size of a small orange) filled with the fluid to be inhaled. I place this to the nostrils and inhale through it as from the hand. By compressing the sponge, the amount of liquid and air contained therein, can easily be regulated, thus allowing just the quantity of water to pass into the nostrils that

experience has proved to be the most efficacious with the least amount of discomfort. As the liquid is inhaled *from* the sponge, the latter does not become soiled."

Since the reception of this letter, I have recommended the use of the sponge by my patients, many of whom like it very much, and continue to use it.

While the head is in the third position (Fig. 3), it is possible for the patient to inhale the solution with sufficient force, to cause a part of it to strike the posterior wall of the pharyngo-nasal cavity; thus the surface of this cavity, with that of the pharynx and upper surface of the soft palate, will also be washed. In this way, the patient can remove tenaceous mucus adhering to these surfaces, which cannot be removed by any other effort he can make, for the reason that the mass of tenaceous secretion is located above the place that may be reached by the movements of the tongue or soft palate, or by the force of the breath in hawking or rasping the throat.

Patients in their endeavor to remove this adhering mucus, usually have severe "coughing spells" in the morning, as they term their efforts to clear the throat, but these efforts do not rid the mucous surface of the offending matter; the removal is accomplished only when they continue to cough long enough to induce gagging efforts, which efforts are accompanied by a qualmish condition of the stomach, and a copious flow of free mucus; it is this fresh flow of liquid mucus that accomplishes the removal of the adhering mass,

by washing it away from its place of lodgment. The attempt to remove this tenacious secretion by the old gargling method, must always fail, because this method cannot throw the liquid employed to the location desired; it can only wash the tonsils, the anterior surface of the soft palate, the base of the tongue, and a small unimportant portion of the fauces.

Patients who cannot clear their throat with the first course of inhalation from the hand or the sponge, and whose cough is continued so long, by the presence of the lodged secretions, that it produces a nauseous sensation, should lie down in bed for a few minutes, as the recumbent position will usually relieve this disagreeable symptom. By the time that the sickness of the stomach has passed off, the solution that has already been inhaled, will have had time to soften the adhering mass, when, in all probability, the patient will be enabled to clear the throat by another course of inhalations.

During the last fourteen years, I have recommended this method to my patients, and they have found that it had a very beneficial effect.

The number of times that these inhaling operations should be repeated, is a matter of some importance. We must always keep in mind that the nasal passages were not made to receive any kind of foreign liquid, and that the lining membrane absorbs to its injury, more or less of every fluid that comes in contact with it. The reason why the medicated solution is a benefit, is because it acts as a solvent to vitiated secretions

that are far more deleterious to the mucous membrane than the effect of the absorption of the liquid itself; it follows, therefore, that just so soon as the decomposed secretions are removed, the solution, if continued, will do harm. In other words, the washing out of these cavities, is but a choice between two evils, the use of the solution being the lesser. It is evident then, that the sooner the lesser evil is discontinued, after the greater evil has been removed, the better it will be for the mucous membrane.

After the surfaces have been made clean, the washing should be discontinued, even though it produces a pleasant sensation, because the absorption of the water causes the membrane to become swollen; in this condition it is more susceptible to the injurious influence of cold weather.

If at any time the inhaled liquid produces a painful sensation, which lasts beyond one or two seconds, then it should be discontinued, even if the passages are not entirely cleansed. In such cases, a few partial washings, aided by the local applications made by the physician, will decrease the heat of the parts, which is the cause of the hardening of the secretions; then, the cleansing can be completed without producing the least disagreeable effect.

Patients in whose nostrils or throat dry masses collect, should inhale three handfuls of the solution immediately on getting out of bed in the morning, placing the head in the three positions named; this will soften the mass a little; and by the time they

have completed their toilet, they will probably be able to cleanse the passages by a second course, *i. e.*, with three handfuls more. During the early treatment of a bad case, three or four courses may be required in the forenoon.

If it is found, upon trial, that these inhalations have not sufficient force to remove the hardened secretions, then recourse should be had to the Catheter Nasal Douche (an instrument that is described on page 100); but so soon as the secretions can thereafter be removed by the inhalations from the hand or sponge, this method should again be employed.

The solution to be inhaled is made by dissolving about one teaspoonful of common table salt in a pint of water that is a little warmer than blood-heat. Patients will soon learn, from experience, whether or not this is the proper strength and temperature. Water, either without salt or with too much in it, produces more or less pain, but with the right quantity (which varies slightly with different individuals), it produces a pleasant, bland sensation. Cold water causes a disagreeable as well as an injurious effect.

For those cases in whom the secretions are offensive, five grains of salicylic acid and five drops of carbolic acid should be added to the pint of solution.

CHAPTER XIII.

REMOVAL OF HARDENED SECRETIONS FROM THE NASAL PASSAGES.

For patients in whom the muco-purulent secretions have become so hardened, and adhere so tenaciously to the mucous membrane of the superior portions of the nasal and pharyngo-nasal cavities, that their removal cannot be accomplished by force of water inhaled from the palm of the hand, or from the sponge, such other means must be resorted to as possess the requisite force to cleanse.

My experience has taught me that there are three qualifications that the means to accomplish this must possess: The first qualification is, that it shall effect that which is required of it, without, at the same time, causing irritation.

All who have had even a few years' experience in the treatment of this most tenacious disease, will see the necessity of carefully observing this precaution. So important a matter is it, that it should not only measure the value of the means for cleansing and for making the application, but also the value of the medicaments that are to be applied to these highly sensitive surfaces. Experience has abundantly proven that an increase of irritation and a decrease of inflammation cannot go on together in the same membrane.

The second qualification is: That direct applica-

tion be made upon every portion of the diseased surfaces within the nasal and pharyngo-nasal cavities and the pharynx.

Although the correctness and importance of this is obvious, and generally conceded, yet strange as it may appear, this very important indication is never fulfilled by the apparatus most commonly employed by the general practitioner and by many of the specialists.

The third qualification is: That it should have force enough to free the diseased surfaces of all of the morbid secretions.

Cases are numerous in which the complete removal of the secretions is all that is required in the way of local treatment; the secretions alone causing more or less disturbance, which is allayed almost immediately, by their removal under mild measures.

In discussing the value of the means employed, I will take such only of them as have been recommended by high authority during the last few years.

The Posterior Narange Syringe has been recommended and employed for this purpose, but even when patients have learned to handle this instrument carefully, it so frequently causes, by its application behind the soft palate, so much irritation, that they soon refuse to use it. Besides this, the throats of those patients whose nasal cavities most require to be cleansed by it, are always exceedingly sensitive to all such appliances, and, because of the elevation and compression of the velum palati to the posterior wall of the pharynx, occasioned by this sensitiveness, the

curved extremity of the instrument is pressed—in the endeavor to insinuate it behind the velum—against this wall with so much force that it soon occasions a pharyngitis, even if none had existed before its application, thus, not only maintaining, but increasing any inflammation that may exist in this region.

Not unfrequently, in cases of severe pharyngitis, the application of the instrument is followed by a show of blood in the expectoration, which may continue for fifteen or twenty minutes afterwards. It is preposterous to expect that a naso-pharyngitis can be eradicated under such circumstances. It will require at least two weeks careful treatment to overcome the injury done by one such application. Therefore the use of this instrument should be discontinued.

The apparatus that is most commonly resorted to, in such cases, is the Weber Nasal Douche. On account of the frequency of the employment of this means, both by the professional and non-professional, I will discuss its merits and demerits at some length, while examining as to whether it possesses the three qualifications that I have named.

Dr. Thudichum, in his paper published in the *London Lancet*, 1864, says: "All difficulties are removed at one stroke by the discovery of Prof. Weber, of Halle (Germany). When one side of the nasal cavity is entirely filled through one nostril with fluid by hydrostatic pressure, while the patient is breathing through the mouth, the soft palate completely closes the choanæ, and does not permit fluid to pass into the

pharynx, while the fluid passes into the other cavity, mostly around and over the posterior edges of the septum narium, in some persons also the frontal sinuses, and escapes from the other open nostril, *after having touched every part of the first half of the cavity of the nose,*¹ and a great part certainly of the lower and median canal of the second half. By means of the application of this principle to the treatment of diseases of the nose, it is possible easily and frequently to wash the nasal cavity, to disinfect and deodorize it, and to apply to its surface a great number of beneficial medicinal substances, so as to prevent acute affections from extending, and to incline them towards a speedy recovery; to stop hemorrhages, allay irritations, and subdue in a remarkable manner chronic affections of the Schneiderian membrane, *so as to re-establish a perfectly healthy surface and normal condition of the organ of smell.*"²

Such promises, expressed in language so forcible *should have proceeded from positive knowledge.* The high authority of the periodical in which the article appeared; the apparent philosophical style in which it is written, gave a seeming guarantee of a cure and raised high the hopes of both practitioner and the patient. It seems to me that it is somewhat remarkable that so large a number of contributors to our journals, and that every author in his work, either devoted especially or partially to diseases of

1. *Italicized by the author.*

2. *Italicized by the author.*

the nasal cavities, should have accepted as correct the principles laid down in this article. It seems harsh to say that the advocates of this method were ignorant of the precise location of the disease, and the precise effects of this douche; but why should they recommend it?

Now let us carefully examine this most popular but most unphilosophical method, to see if it possesses the three essential qualifications stated in the first part of this chapter.

There is no doubt of its possessing the first qualification; that it does not occasion irritation is one of the good qualities that its friends have urged in its favor, and it is not uncommon for them to apply to it the adage that is so frequently applied to homœopathic remedies, namely: that if it will do no good, surely by its simple action it can do no harm. This is the only one of the qualifications it possesses.

Next, does the Weber douche make direct application to every portion of the diseased surfaces? That Dr. Thudichum made a very grave mistake when he said that it does do so, may be proved conclusively by the following experiment: First, cover the mucous membrane of both nasal cavities of the person upon whom the experiment is to be tried, with finely powdered starch, by insufflation, both in front and from behind the velum palati; next, incline the head forward, as recommended by Thudichum, and pass a weak solution of iodine and iodide of potassium through the nasal passages by means of this douche.

The iodine solution will either discolor or wash away all the starch within its reach; the discoloration will be the characteristic blue of iodide of starch. The effect of the washing may be seen by reflecting natural light upon a pharyngeal mirror, placed under and behind the pendent soft palate, and by inspection through the anterior nares. The washed or discolored

FIG. 4.



Antero-posterior section of the head and face, showing the turbinated processes *a, b, c*; *d, d*, the location of the encrusted secretions in the highest portion of the nasal cavity; *e*, the height that the water attains in the nasal cavity while using the Weber douche while the head is inclined forward. The dotted lines indicate the position of the posterior border of the septum nasi.

portion of the mucous membrane, will show that the greatest height that the iodide solution reached in the antero-superior portion of the cavity, was only a little above the anterior extremity of the middle turbinated process, (*b. Fig. 4.*) and that only that por-

tion of the cavity which is below a line drawn from from this point to the lower surface of the posterior nasal opening (*e*) is washed, and that all of that portion of the surface above and posterior to that line (*d, d,*) is not washed, the uncolored starch remaining plainly in view. In other words, the solution flowing into the nasal cavity, rises until it reaches a level that is on a horizontal line (*e*) with the inferior surface of the posterior nasal opening of the side in which the liquid is introduced; then, instead of rising higher, upon the introduction of more fluid, it will flow around the posterior border of the septum narium (dotted line), over that portion of the soft palate which joins the hard palate into the other nasal opening, and thence out through that passage.

Thus it is seen, that instead of "touching every part" of this cavity, as asserted by Dr. Thudichum, only a little more than the lower half of it is touched, and it is that half, too, which is very *rarely incrustated or requiring treatment*; the upper half, the region whence all of the secretions flow, that find lodgment in the inferior portion of the passage, remains untouched, and hence uncleansed. In the other nasal passage, the floor only, not the middle meatus also, as Dr. Thudichum declares, is washed by the liquid as it escapes.

It is a mistake to suppose that the elevation of the soft palate against the posterior wall of the pharynx, will cause the fluid to rise higher in the nasal cavity than the line (*e*, Fig. 4) indicates, because the liquid

has still the same avenue for its escape, namely through the other posterior nasal opening; nor is the closure of the communication downward into the pharynx a provision by nature (as asserted by the advocates of this method), to allow a more rapid flow of the current into the cavity; nor, indeed, can the nasal fossæ be filled by the closure of the other nostril, because the effect of both of these acts will be to cause the liquid to rise higher in the cavity, but before it is filled a part of the fluid will flow over the soft palate, and its presence on this sensitive organ will occasion involuntary deglutition, which will be instantly followed by partial strangulation. This strangulation is occasioned by a portion of the liquid which is not swallowed, falling down into the open larynx, thus causing a choking sensation of a severe character. Even if a little more of the surface is touched by this forced irrigation, the time during which the liquid is in contact with the higher portion of the cavity is so short, that it cannot be effective.

It will appear manifest to all who have studied the anatomy of this portion of the head, that it is not the elevation of the soft palate, nor the closure of the passage into the fauces, nor the closing of both nostrils, but the position of the head of the patient that governs the amount of surface touched by the water. The nasal cavity, while the head is erect, will not retain a liquid any better than a tea cup while lying on its side, but the more that the head is inclined forward, until the posterior border of the septum nasi

(see the dotted curved line in Fig. 4) is placed in a horizontal position, the greater will be the quantity of fluid contained in the cavity. But should the douche be employed while the head is in this position, a far more serious inflammation will be set up in other cavities of the head than the one that is being treated, for a part of the irrigating liquid, in which there is dissolved secretions, will pass into the antrum of Highmore, and a part will flow into the frontal sinus, through openings under the middle turbinated processes.

As the irrigating fluid does not touch that part of the nasal cavity in which the greatest amount of secretions are lodged, it cannot, therefore, possess the third qualification. Even if the stream is thrown with sufficient force to reach this location, instant, involuntary deglutition would take place, but such a stream would not have force enough to remove the hardened secretions, as they are remarkable for the tenacity with which they adhere to the place of formation, *i. e.*, in the neighborhood of the superior and middle turbinated processes. Even if two or three gallons of fluid were to be employed—which quantity I have used on several occasions—the time occupied in its passage is not long enough to soften and remove even that portion of them that is touched. By the time that this quantity of liquid shall run through the passages, the healthy mucous membrane will have absorbed so much of it as to cause occlusion of the passages to such a degree that the patient will be com-

pelled to breathe through the mouth. After several such applications, such a degree of tenderness will be produced, that the least exposure to a cold atmosphere will likely induce an attack of acute catarrh of portions of the cavity heretofore unaffected.

Although I believe that I have plainly demonstrated that the Weber Douche is inefficient, yet I will show that in addition to this, its use has an injurious effect upon every patient that employs it, by its insidiously spreading the chronic inflammation upon unaffected parts, and that upon some patients, its injurious efforts manifest themselves suddenly and severely.

Before instancing the cases in which the injuries were sudden and severe in character, I must say that the number of persons thus affected, is remarkably small in proportion to the large number who have used and are daily using this method.

There is certainly a very *large* number of persons who are employing this means for cleansing their nasal passages. As fast as one set discontinue its use, after finding out that it does not fulfill their expectations, another set commence it, and yet the cases of acute inflammation of the cavities connected with the nasal passages, that arise from it, *are not* at all frequent. I have had a patient who commenced to use this douche in March, 1871; he washed his nostrils by it from one to three times, and sometimes as high as four and five times daily; he very rarely passed a day without using it, making in all, certainly, about

three thousand applications. Twice, during this period, he experienced painful sensations in his ears; and on four or five occasions he experienced a painful sensation in his left cheek, showing that the left antrum of Highmore was injuriously affected by it, and also showing that this cavity was more easily injured by the douche than were the ears.

It is seldom that I treat a catarrhal patient who has not, in his endeavor to rid himself of the disease, used this douche a great many times, yet it is seldom that complaint is entered against it on account of any injury received from it, that is, one that the patient would call an injury; I mean such an injury that would develop itself suddenly, or show itself by symptoms of a marked character. So small, indeed, is the number of cases whose ears and sinuses receive injury of this character, that, in my opinion, were the method as effective as claimed by Dr. Thudichum, it should not be discontinued on account of its occasional bad effects.

It is not because this method now and then originates an acute inflammation in a comparatively few cases out of the thousands who use it daily, almost without instruction or warning, that I would condemn it, *but it is on account of the injury that the water does to the healthy surface without, at the same time, benefiting the unhealthy or catarrhal surface.*

The application of water or of any fluid, except mucus, to the nasal cavities, is always productive of more or less injury to its healthy mucous membrane,

but this injury is more than compensated, if, by the application, vitiated and irritating secretions are removed, which could not have been done without its aid; but if these secretions are not removed during its application, then the injury done by the water to the healthy parts is not compensated by any benefit done to the inflamed parts, but, on the contrary, the condition of the patient is made worse more rapidly than if nothing had been done to him; the healthy mucous membrane being prepared, by frequent absorption of water, to take on more readily a catarrhal inflammation. This is the injury that should deter every one from employing this method. I am quite certain that fully ninety-five per cent of the cases that have come under my observation, in which this douche has been used, have not only maintained their catarrh by it, but have also caused the chronic inflammation to extend to other parts of the nasal cavity, as well as to other cavities.

It will be seen that what I have said about the liability of this douche to set up a chronic inflammation in other cavities, is almost in accordance with Dr. Roosa's experience, given in his work on the ear. He says: "As early as 1869, I had found that the nasal douche was sometimes a troublesome and dangerous appliance, and I added a note to indicate this in my translation of Von Treeltsch on the ear, [second edition, page 369,] but I was not fully convinced that it would readily cause acute aural inflammation until the following case occurred in my practice. * * *

Besides, as it is believed by many otologists, it is possible that the douche sets up a chronic inflammation of the tympanic cavity, without any acute stage, and thus the true cause of an insidious chronic catarrh is passed over and supposed to be an advance of the naso pharyngeal inflammation. Of course it is not believed by the author that the use of the nasal douche will *necessarily* cause aural disease, but that it is a dangerous means of treatment, which should be carefully watched by the practitioner."¹

Although Dr. L. Turnbull is a strong advocate of this method, yet it is evident that the facts which he records in his work on *The Ear* are also in agreement with what I have said. He says: "There are some important cautions to be observed: first, the fluid must be of the temperature of the body [about 96°]; second, the patient must breathe gently with the mouth open; and lastly, must not swallow, else the fluid will pass into the middle ear and cause the following results, well told by a patient in the following letter from Frederica, Delaware:

'MY DEAR SIR:—I find on using the nasal douche as recommended by you, that it affects me somewhat unpleasantly. I find no difficulty in passing the water as directed from one nostril to the other, or back into the throat. On passing the water into the throat the Eustachian tubes apparently are also filled, and give the same sensation I have experienced, when a boy in swimming, and what we used to call "bubbles in the ear." I cannot free my head of the water taken in

1. *Dr. St. John Roosa on the Ear*, 1878, pp. 291-295.

for some four or five hours after using the douche. I then feel as if I had taken cold. My ears feel sore, pressing the tips of the fingers into the external ear causes a dull pain, apparently about the drum of the ear. This passes off in about twelve hours. . . . I am much more deaf than usual for some hours after using the douche. Yours respectfully,

J. R. H.'

"To this form of medication there are some other objections which have been made by Professors Roosa and Knapp, viz: that otitis media may supervene, and perforation of the membrana tympani be caused by excessive sneezing, the result of using the douche; but no such results have followed the extensive use of this most valuable means employed by the author in hundreds of cases, both of ear diseases and of ozæna with or without deafness."¹

Instead of its being a most valuable means, as claimed by Dr. L. Turnbull, the experiment with the powdered starch and iodine solution demonstrates that it is really valueless, except in so far that it makes it possible for those patients who suffer from profuse catarrh to breathe with some degree of comfort, by its removing the secretions that occlude the inferior portions of their nasal passages. It is because of this relief that patients express themselves as pleased with the method. Besides this, the effect of the warm fluid is always pleasant to those patients, even if the whole of the diseased surfaces are not bathed by it. I have

1. *A Clinical Manual of the Diseases of the Ear*, by Laurence Turnbull, M. D., 1872.

noticed for years that the expressions of benefit or relief, came almost invariably from those patients whose nasal cavities were plugged by inspissated secretions, and who suffered in consequence of the heat arising from the inflammation, and not from those whose catarrhal complaint allowed a free passage for breathing, except at such times as they suffered from an unusual amount of irritation occasioned by a recent cold.

It is very common for physicians, in reporting the favorable result of the application of this douche in a very bad case, to say, as Dr. Thudichum said: "It is really surprising what an amount of sordes will sometimes be removed from the nose by this rinsing process," or "that great masses of hardened, offensive secretions are washed out, and that this relieved the patient of an ever present weight in the head." Such expressions as these lead the readers of the report, as it led me, to presume that if this method of treatment will produce so marked, so beneficial a result upon so bad a case, it will certainly cure a case that is but slightly affected. But the fact is, so far as relief and cure is concerned, the very reverse of this is true; the cases of profuse catarrh are relieved, but not cured, and the slight cases are injured by it, without experiencing any relief.

That this method will remove the secretions that are situated in the inferior and anterior portions of the cavity, (*a. b. Fig. 4.*) is not doubted, but this is all that it will do; its usefulness ends here. This removal has the effect to give the patient breathing room only,

the disease is not even checked. The larger half of the treatment that is to cure the complaint, is the removal, completely, of the secretions from every portion of the cavity, which this douche cannot do. The portions of the cavity that are the most important to be cleansed, are the superior portions (*d. d.* Fig. 4), because the disease originates in this locality, consequently there is secretions on these surfaces, however slight the catarrhal affection may be. There are many patients, severely afflicted ones too, in whom the lower portion of the passages is entirely clean and healthy. They require no application of water, and will be injured by it, if it is applied every day.

I will now relate a part of my experience in the employment of this douche, that I may be enabled to give the history of the circumstances by which I discovered the inadequacy of its applications.

In January, 1863, while located in the U. S. Gen. Hospital, at Jefferson Barracks, Mo., I had two patients under my care who were suffering from nasal catarrh. I directed them to wash out their nasal passages with various solutions, by means of Matison's soft rubber syringe. Other soldiers, noticing the applications, requested to be treated for a similar complaint. During this year and the following one, I treated, or attempted to treat, in all, sixty-eight patients.

The failure to more than maintain a passage through the nostrils, added to failures that occurred years ago, on several cases similarly affected, induced me

in January, 1865, to open a correspondence with a class-mate in Boston, who had recently visited the hospitals in London and Paris. From him I learned of Dr. J. L. W. Thudichum's article on a "New Mode of Treating Diseases of the Cavities of the Nose," which appeared in the *London Lancet*, of November and December, 1864.

These articles contained a full description of the Weber Nasal Douche, and gave a list of remedies to be used. Their tone was so confident and so assuring that I was ready to conclude with my friend, that at last we had the means of combatting this complaint, which had heretofore baffled all endeavors. At the time of the reception of the two numbers of the *Lancet*, I had six cases of nasal catarrh in my ward. So certain was I of curing them by this method, that I wished for sixty cases instead of six.

The patients at first were much pleased with the effects of the washing, and I could see that the prominent symptoms were much abated.

In a few weeks, I noticed that it was those patients only, whose nostrils were very much filled by sordes during the night, that continued to give the most favorable reports. About four months after I commenced to use this mode of treatment, one patient on whom the douche had been used about three weeks refused to have it applied, because, as he claimed, it caused intense pain in the left side of his face, in the upper jaw and also in his forehead. Soon after this, another patient informed me that it had the same effect on

him, and moreover, that the secretions from his nose and throat were more profuse than at any time during his life, his catarrh being but a slight one when I commenced to douche him. The first patient that was injured by the washing had an inflammation of the antrum of Highmore on the left side. He insisted that the douche caused it, but I did not think so at the time, because, on examination of his teeth, I found that the second upper molar, whose fang sometimes penetrates into the antrum, was decayed. I extracted this tooth and treated the diseased antrum through the opening made by the tooth. The case, so far as the diseased sinus was concerned, recovered in about five weeks.

As I did not consider that the decayed tooth originated inflammation of the antrum, I recommended that the patient should use the douche again. He did so, and had four applications, when a very severe inflammation of the antrum again ensued. From this he recovered after about two months' close attention. The second case in whom the antrum was involved did not require any special treatment; I merely let him alone; and in a few weeks he, too, recovered; his catarrhal symptoms also improved slightly upon non-interference.

I discovered about this time that while the douche had a good effect on those patients whose catarrh was very profuse, it proved an injury to all cases in whom the secretions were always in a fluid condition and were but small in quantity.

In order to ascertain the reason of this peculiarity, I made an examination, post mortem, of a patient who had died suddenly of a paralysis; he had a very profuse catarrh, and had been treated by the douche about three months. The applications were made daily for ten days, then at such times as the secretions demanded removal, which was about every other day. The treatments gave so much relief when first employed, that he expressed himself as being quite certain that they would ultimately cure him. He had frequently stated that he had never used anything that had so good an effect on him as the douche of warm salt water. I was astonished to find, during the post mortem examination, that the posterior portion of the superior half of the nasal cavities (*d, d*, Fig. 4) were incrustated with old and offensive secretions, although the passages had been washed out, in accordance with his request, about six hours before he died, and that he had been regularly douched from the commencement of the treatment.

Having made an antero-posterior section of the head, I made a large opening in the septum nasi and placed over this a piece of window glass large enough to close it; then, I inclined the head forward, as recommended by Thudichum, inserted the rubber tube into the nostril and caused water to flow into the cavity, in the same manner that I had done in the treatment of my cases. Through the glass septum, I saw that the water was maintained in the cavity at that height only that was on a level (*e*, Fig. 4) with the

lower border of the posterior nasal opening of the side douched, and that it could not wash the superior and posterior portions of the nasal and pharyngo-nasal cavities (*d, d*, Fig. 4); it washed the inferior and anterior portions only (*a, b*, Fig. 4). This experiment at once solved the mystery of this form of douche being beneficial in cases of profuse catarrh, but never checking entirely the formation of the purulent secretions either in severe cases or in mild ones. I had then used the Weber Douche for eight months, (Sept. 1865), making from five to twenty applications of it every day, and was satisfied that it had gained its reputation from the relief that it had afforded to patients who were suffering with profuse secretions and large incrustations.

As the medical journals continued to praise this method, and as it was the best means known for alleviating bad cases of this disease, I continued its employment until June, 1866, at which time I had two patients (then in private practice) whom I injured by its use. One of them suffered so severely from otitis media that I perforated the membrana tympani; the other had an inflammation of the antrum of Highmore. At this time, partly at the suggestion of a patient, I began to recommend, instead of the douche, the inhalation of water from the palm of the hand, while the head was inclined forward, as recommended in a previous chapter (xii).

In September, 1868, I drew the attention of the members of the St. Louis Medical Society to the de-

ficiencies of this douche, by drawings on the black-board, demonstrating the manner in which the irrigating fluid failed to reach the superior portion of the nasal cavity, and at the same time mentioned two cases which I had treated that year, whose ears were injured by means of this apparatus. In both of those cases a perforation of the membranæ tympani had taken place; one of the patients was seriously ill for a period of four weeks from an inflammation of the mucous membrane of the mastoids cells.

In 1869, I treated two cases whose ears were affected injuriously by the douche, on one of whom the mastoid process was greatly swollen, which was relieved by a free incision.

In 1870, I had five cases who were injured by this apparatus. I took the pains to inquire whether or not they had informed the physician who had recommended the douche, of the bad effects of the treatment, and learned from them that they had not done so.

In 1871, I had only one case that was injured by the douche. He had been using the apparatus for about four years, and he had repeatedly experienced sensations as if the water had passed into both ears. He had noticed that the solution passed into the ears at such times as he had a cold in the head. He informed me that he knew of several of his acquaintances who were affected in the same way; "But," he said, "each of us had earache when we were young, and I thought that the earache had made our ears weak."

of inflammation of the frontal sinus. The hearing in the seven ear cases was defective before the use of the douche, but much more so after it had caused inflammation of the middle ear. In two cases I perforated the membrana tympani; in one of those the perforation closed in four days, in the other in about three months. In the case of the inflamed antrum,

In 1872, I treated four cases from injuries done by the douche. Three of those cases were but slightly affected in the ears; two of three had otorrhœa when young, the third one had no affection of the ear except from the use of the douche. The fourth case was affected in the left antrum of Highmore; a molar tooth, which was partially decayed, was extracted to afford an opportunity to treat the cavity.

In 1873, I had two cases, both of whom had otitis media, but neither very severe. No history of previous complaint of otorrhœa, but both were quite defective in their hearing before using the douche.

In 1874, I had six cases who had otitis media from the use of the douche, and two cases in which the antra were affected injuriously by this apparatus. All of the cases were mild ones.

In 1875, I had three cases of otitis media from the use of the douche; in one of these cases, which was severe, there is a history of a previous affection of the ear. The hearing of all of the cases was quite defective.

In 1876, I had seven cases of otitis media, and one of inflammation of the antrum of Highmore, and one

I had a second molar, which was decayed, extracted to allow the escape of the pus. The case with the frontal sinus was very severe, the lower portion of the forehead was greatly swollen, and very red. The pain was so great as to prevent sleep for three days.

I have noticed a fact, connected with the history of nearly every one of my patients, which to a certain extent, lessens the censure that might be attached to this method of cleansing the nasal passages, namely: that their ears and antra were in a more or less inflamed condition before the application was made. In all ear cases, even if there had been evidences of a diseased condition—except in those who suffered from perforation of the membrana tympani—if they desisted from performing the act of deglutition, thus preventing the entrance of water into the middle ear, the employment of the douche did not produce acute inflammation. The ear of those patients whose membrana tympana were perforated, were unaffected by the douche, even if the act of swallowing was performed while the water was in the pharyngo-nasal cavity. I think that it is barely possible for water to enter a middle ear, if its membrana tympani is perforated. I have not seen or heard of a case in which it did so. I have also noticed that those patients whose ears had not manifested any symptoms of a diseased condition previous to the use of the douche did not volunteer complaints of its bad effects, even when the water did enter their ears. But, from my observations, I should expect that in *every* patient

whose ears were affected by an *acute* inflammation—except in those in whom the tympana were perforated—all of the acute symptoms would be suddenly aggravated, if they performed the act of deglutition while employing the douche.

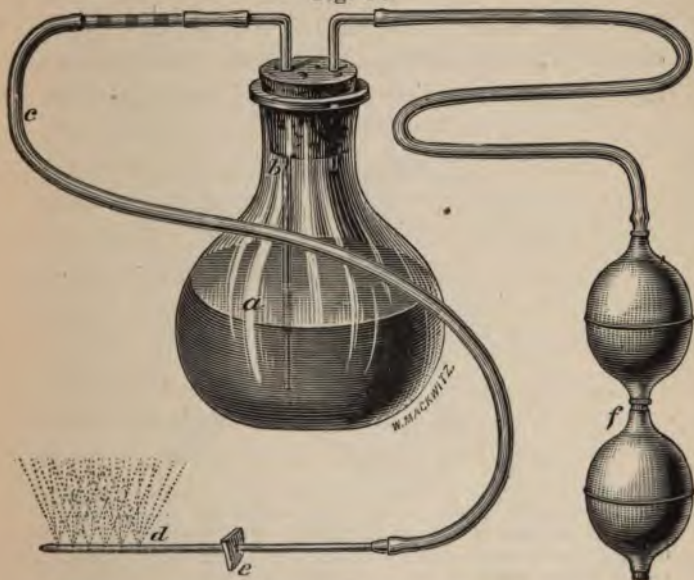
Even if it were not possible to select those patients who should not use this method of cleansing the nasal passages, I would not consider this a sufficient reason to condemn it, provided it had a salutary effect on all of those patients whose ears and antra were uninjured by it; but since it proves a serious injury to some patients, and signally fails in every case to reach the locality in which the disease *originates*, thus returning no compensation for the injury that it must do to *uninflamed membranes, by their absorbing water*, then, most certainly, it should be discontinued.

After observing the inadequacy of the Weber Nasal Douche, I devised an apparatus in June, 1867, which I have called the Catheter Nasal Douche, (Fig. 5). It throws a shower or coarse spray of liquid from the floor of the nostril upward, reaching every portion of the irregular surface of the cavity, making efficient and direct local application. When warm salt water is used, the only sensation it occasions is that of tickling, which is never objected to by the patient.

The apparatus consists of the following parts: The vessel that contains the cleansing fluid is a flask-shaped bottle (*a*, Fig. 5) of a pint or a pint and a half capacity; into the soft rubber stopper of this bottle are inserted two metallic tubes, whose outer extremi-

ties are bent at right angles, and turned in opposite directions. One of these tubes is short, but long enough to pass through the stopper, and has attached

Fig. 5.

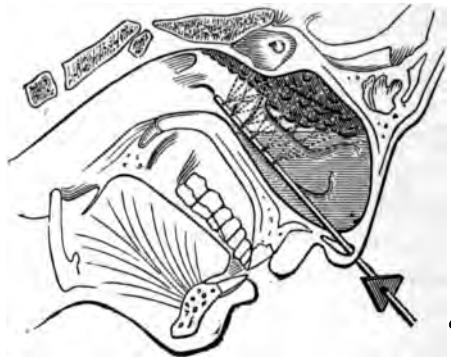


Catheter Nasal Douche : *a*, container ; *b*, metal tubes for passage of the liquid, the letter is placed beside a small aperture in the side of this tube which is to allow the entrance of air ; *c*, supply tube, which is made of soft rubber and glass tubing ; *d*, catheter with foramina, for the escape of the air and liquid ; *e*, triangular piece of soft rubber, perforated and slipped on the catheter ; *f*, india rubber air bulbs used to force air into the container *a*.

to its outer extremity, India rubber air bulbs (*f*) ; the other metal tube (*b*), almost reaches the bottom of the container. Attached to the outer extremity of this tube is a supply tube (*c*). This is about twelve inches long, a part of which consists of soft rubber

tubing and a part of glass tubing; the glass portion is about three inches long and forms a part of its first third. To the outer extremity of the supply tube is fastened a No. 5, or No. 6, flexible catheter (*d*) six inches long, at the further end of which are made five small openings in a line with its axis, three-eighths of an inch apart. The free extremity

Fig. 6.



Antero-posterior section of the head, showing the catheter introduced into the nasal cavity, and the direction of the coarse spray. The triangular piece of rubber *e*, on the catheter will indicate the distance the catheter is introduced and the direction that the stream is taking. of the catheter is closed. A perforated triangular plate (*e*) of soft rubber, with one inch borders, is slipped on the catheter about three and a half inches from the closed extremity. This plate will prevent the liquid from flowing on the operator's hand, and at the same time, it will serve as a guide both in regard to the direction of the stream and the distance that the instrument is inserted into the nostril. (See Fig. 6.)

The metal tube, whose lower extremity dips into;

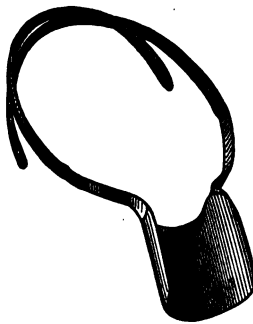
the fluid in the container, has a small aperture in its side (*b*), just under the rubber stopper. This aperture is to allow air to enter during the passage of the liquid up the tube, the effect of which is to cause it to contain beads of air and fluid alternately. These beads of air and liquid should be about one-half of an inch long and equal in size. When the air and solution escape from the openings in the catheter (*d*), it will resemble a coarse spray. The relative size of the beads of water may be ascertained by inspecting the glass portion of the supply tube, after the stream in it has been suddenly arrested, by compressing it near the catheter. If the air beads are relatively the larger, then the aperture (*b*) under the rubber stopper, in the long metallic tube is too large; if the air beads are smaller than the water beads, then the aperture is too small. In either case the aperture should be so made that the beads of the two will be about equal in size.

In its application, the catheter is introduced horizontally into the nasal cavity to be cleansed (Fig. 6). The coarse spray or spattering current of liquid and air is made to pass directly upward. By slight rotation of the instrument on its axis, the stream will wash and blow the secretions from their lodging places under the turbinated processes, and in the highest portion of the cavity, in a much milder manner than a steady stream from any form of a syringe applied either in the anterior or posterior nasal openings, and of course, in a much more efficient manner than the Weber Nasal Douche.

The cleansing process may be greatly assisted by the patient closing the nostril not treated, and then giving a quick and forcible blow out of the one that is being washed, this will expel the liquid and everything loose with considerable force.

A nasal guard (Fig. 7) fitted on the head so that it

Fig. 7.



Nasal Guard to prevent the outflowing water and muco-purulent secretion from falling on the clothing of the patient.

may be placed under the nose, will prevent the irrigating solution and the muco-purulent secretion from falling on the lips, and from soiling the clothing, at such times as the patient is blowing his nose.

This apparatus, if care is taken not to force too much or too little air into the reservoir, will accomplish all of the requirements that are necessary to the proper cleansing of these cavities. It possesses the essential qualifications, namely: 1st, It does not produce irritation; 2d, it throws the irrigating fluid to all parts of the nasal cavity, even under the turbinated processes; and, 3d, it has force enough to remove all

of the hardened secretions, and cleanse the surfaces after they are removed. This force is completely under the control of the patient or the person employing the apparatus, so that the coarse spray of air and liquid may be caused to strike the secretions with such a degree of force only as is required to remove them, and, after the removal, the force may and should be lessened, to complete the cleansing of the unhardened secretions.

The amount of fluid that is employed is a matter of great importance. We must keep in mind that the mucous membrane, especially that portion of it that is in a healthy condition, absorbs to its injury more or less of every liquid that comes in contact with it; for this reason the application of the water should be discontinued just so soon as the hardened secretions are removed, even if the washing process produces a pleasing sensation. If the washings are protracted, the healthy mucous membrane in the lower portion of the nasal cavities will absorb so much water, that it will become swollen, in which condition it is more liable to be injured by the influences of an out-door atmosphere.

If at any time the force of the stream is such as to produce a painful sensation, which lasts beyond one or two seconds, then the washing should be discontinued, even if the passages are not entirely cleansed. If the disagreeable symptoms pass off in a few seconds, the washing may be commenced again, but with such force that no disagreeable sensation will be pro-

duced; if the pain occasioned by the first effort lasts beyond one minute, then the washing should be deferred for several hours.

The washings should be done in the morning before breakfast, and repeated often enough to keep the passages free of hardened secretions, but each time using as *small an amount* of fluid as will accomplish the cleansing process.

As soon as the secretions *cease* to become hardened, the washing by the Catheter Nasal Douche should be discontinued, and the inhalation of the water from the palm of the hand or the sponge should be substituted, as the latter mode is sufficiently effective, and is accomplished with much less trouble.

The irrigating solution is made by dissolving in a pint of water, that is a little warmer than blood heat, about one teaspoonful of common table salt. Patients will soon learn from experience whether or not this is the proper strength and temperature. Water, either without salt or with too much in it, produces more or less pain, but with the right quantity (which varies slightly with different individuals) it produces a pleasant, bland sensation. Cold water causes a disagreeable as well as an injurious effect.

For those cases in whom the secretions are offensive, five grains of salicylic acid and four grains of carbolic acid should be added to the pint of water.

Patients that require the employment of the Catheter Nasal Douche should receive such instructions as are proper to prepare them to use it themselves.

CHAPTER XIV.

CLEANSING OF THE EARS.

Whenever the secretion of an inflamed middle ear is so excessive that the mucous membrane can not absorb it, then it must be removed by mechanical means. The means taken to accomplish this should not cause the least irritation, and it should apply the irrigating fluid to every portion of the tympanic cavity.

Muco-purulent secretion, if allowed to remain twelve to twenty-four hours, acquires an acrid property. In this condition it will not only maintain the inflammation, but will tend to increase it, and will bring about the condition that favors the growth of aural polypi.

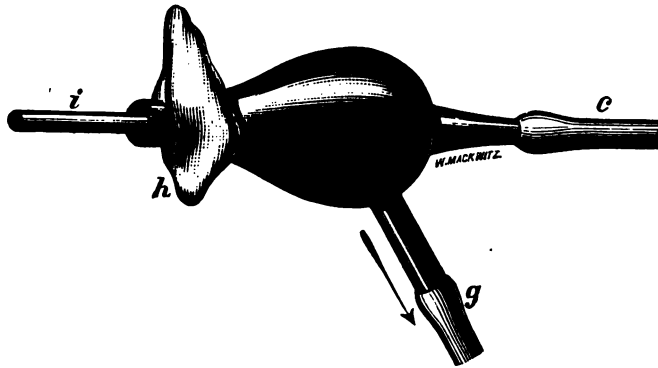
The successful employment of any kind of an apparatus for cleansing the ear will depend very much on the patient's expertness as well as his diligence.

I do not think that the usual hard rubber, or soft rubber, or glass ear-syringe should be given to a patient. During the repeated insertions of the point of either of these syringes into the meatus, misdirections are frequently liable to occur; besides this, the patient can not use them so as to cause a uniform stream of the irrigating fluid to enter the ear, and not unfrequently these intermittent streams occasion very dis-

agreeable symptoms by striking the drum with too great a force. It is owing to these defects that cleansing the ear is almost always a complete failure.

I consider that Lucæ's injector (Fig. 8) is the

Fig. 8.



The Modified Lucæ Ear Injector (full size). *c*, The soft rubber supply tube. *i*, The small soft rubber tube that passes into the meatus to within one-quarter of an inch of the membrana tympani. The cleansing fluid passes from the tube *c* through the small tube *i*. After the water has spent its force on the drumhead and middle ear, it flows back outside of the small tube, to again enter the injector and pass out by the tube *g*, which conducts the liquid into a receptacle by the patient's side, *h* a gutta percha ring that has been moulded, while warm, to fit the parts surrounding the outlet of the auditory canal. This ring, with gentle pressure, prevents the escape of the water, except through the tube *g*.

best instrument for cleansing the ear. With it the patient may place his head in any position desired—a very important advantage indeed—as the extremity that is inserted into the ear, fits it so closely that the water cannot escape, except through the instrument itself, to run over the patient and his clothes.

This instrument which is made of hard rubber or soft metal,—is about three inches long. It con-

sists of two tubes, one within the other, the inner tube conducts the irrigating fluid into the ear, the outer tube—the caliber of which is larger than the outside diameter of the inner tube—conducts the water away from the ear. To the outer tube (*g*) is attached a soft rubber tube about two feet long, this conducts the liquid into a receptacle by the patient's side; it also prevents the water, after it has left the ear, from flowing on the patient's clothes, while his head is in different positions required for the cleansing. To the outer extremity (*c*) of the instrument, which is the inner tube, is attached another soft rubber tube; through this the cleansing fluid passes to wash the middle ear.

To the extremity of the inner tube, I have attached a small and short soft rubber tube (*i*), of the same caliber as the inner tube; it is long enough to project three-fourths of an inch from the injector. The object of this slender soft rubber tube is to carry the water so near the drum of the ear that the force of the stream will be but slightly counteracted by the returning water from the middle ear. In this way the stream is made more efficacious without the employment of a great deal of force. As this little tube is very flexible, the patient is not in any way liable to injure his ear, either by an unsteady thrust or a side movement of the instrument.

I have also added another slight modification to this excellent ear injector of Dr. Lucæ's. Not unfrequently the child's ear is so excoriated with the

out-flowing otorrhœal discharge, that the meatus is too painful for him to press the injector into his ear with sufficient force to prevent the escape of water down the side of his neck. To obviate the necessity of thus pressing the instrument into the ear, I have surrounded the extremity of the injector that enters the ear with a wide ring (*h*) of gutta percha. This ring is moulded (while the gutta percha is in a softened condition from being heated slowly over a lamp or in some warm water) to fit the parts immediately surrounding the auditory meatus. With this moulded ring, the injector requires but slight pressure, to prevent the outflow of water, except through the instrument. Of course, these moulds will necessitate the patient's having two injectors, if both of his ears requires cleaning. It is seen also, that these moulded rings will not fit the ears of any other patient.

Fig. 9.



Showing the position taken in first introducing the ear injector. The patient holds the instrument into the ear with one hand, and draws the ear that is to be cleansed upward and backward with the other hand.

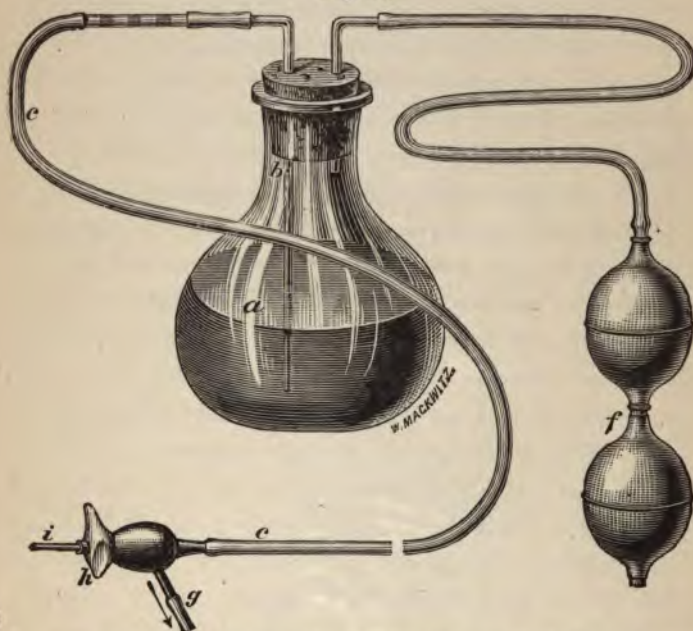
Although the slender soft rubber tube, that projects into the ear, will to some extent, take the

curved course of the auditory canal, yet experience has proven that the stream strikes, almost invariably, the posterior wall. In order, therefore, to make the stream pass through the perforation in the drum head and enter the middle ear and not waste its force on the sides of the curved auditory canal, the patient should straighten this passage as much as possible. To do this he should throw his arm,—i. e. the one opposite to the ear to be washed—over the top of his head and flex it towards the ear, so as to grasp the auricle with his thumb and finger and pull it upward and backward (Fig. 9). The injector is held into the ear with the other hand.

The irrigating fluid may be taken from a common pitcher by means of a syphon, or from the same kind of a container as that employed for the catheter nasal douche already described on page 101 (Fig. 10). In this case, the catheter is removed from the tube (*c*) and the ear injector is attached in its stead, the aperture (*b*) under the rubber cork of the container, is covered by slipping a piece of soft rubber tubing on the long metal tube. This prevents the entrance of air into the stream as it leaves the container, which was essential in the catheter nasal douche, but will be quite objectionable in the ear injector. The water is forced from the container and injector by forcing air into the container by means of the air bulbs (Fig. 10, *f*), as is done in using the catheter nasal douche. The force of the stream is regulated by the amount of air forced into the container. Should dizziness or other dis-

agreeable symptoms be produced by the force of the stream, the injection should be discontinued at once and afterward less force should be employed. It is never necessary to use a great deal of force in order to cleanse the middle ear properly.

Fig. 10.

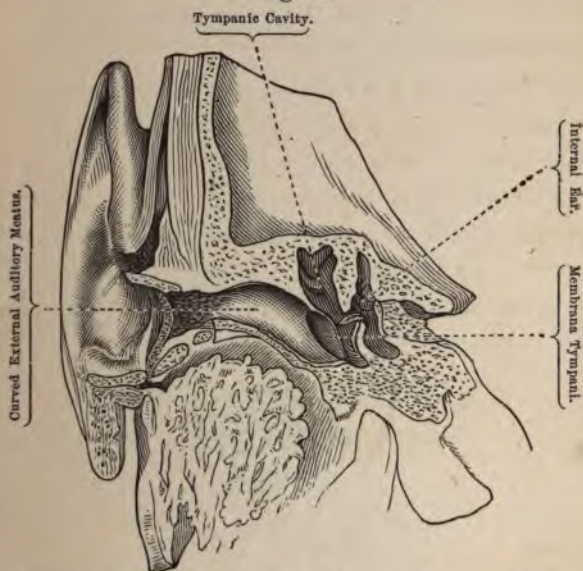


Reservoir for forcing the cleansing fluid through the Ear Injector. *a*, Container. *b*, Perforation that must be closed in the metal tube that conducts the water into the rubber tube *c*, thence out through the small soft rubber tube *i*. *g*, soft rubber tube that conducts the water away from the ear. *h*, ring to prevent the water from flowing down the neck of the patient. *f*, the rubber bulb for forcing air into the container, *a*.

Merely washing out the auditory canal is but a small and unimportant part of the operation; it will fail to

produce any beneficial result if the muco-purulent secretion is not entirely removed from the *whole* of the middle ear. It must be kept in mind that the upper half of the tympanic cavity is above the superior wall of the auditory canal (Fig. 11), conse-

Fig. 11.



Section of the External Auditory Meatus; the Membrana Tympani; the Tympanic Cavity, etc. After Henle.

It is seen, from this illustration, that a perforation in the middle of the membrana tympani will allow only the *lower third* (even less than that in many cases) of the tympanic cavity to be cleansed, if the head of the patient remains in the position that is usually occupied while the ear is being syringed, leaving *all* above the upper margin of the perforation *untouched*, consequently *unwashed*, as the water cannot be made to condense the air nor displace it, while the head remains in the erect position.

quently filling the canal with water only fills that portion of the cavity that is below the upper margin

of the perforation in the drum head, (provided the head remains in the erect position), which is *less* than one-third of the cavity, all above this is still occupied by air, which will not be driven out by injections, if the force of the stream is limited by the patient's endurance. If the air is not displaced by the water, it is evident that the whole of the cavity will not be cleansed.

To accomplish the removal of the air, I place the tympanic cavity in a position similar to that which I would place a bottle of the same shape, that is, I cause the patient to hold his head in such a position that the mouth or outlet of the cavity is placed *above* the air bubble, then the escape of the bubble takes place readily, upon physical principles.

Fig. 12.

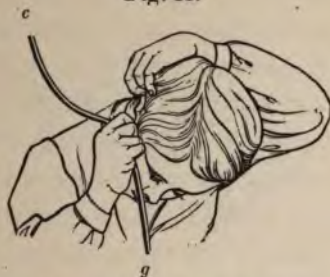


First position. *c*. Supply Tube. *g*, Tube to conduct the water away from the injector.

To bring about this result, I have the patient's head describe a circle, in the following manner: Commencing with the head in the erect position (Fig. 12), the stream from the injector is allowed to flow into the ear for a few seconds, that the patient may become

accustomed to the sensation it produces; his head is then inclined forward (while the stream is contin-

Fig. 13.



The head inclined forward while the patient still holds on to his ear and the injector. *c*, Supply tube. *g*, Tube to conduct the water away from the injector.

uously running), until the forehead assumes the horizontal position (Fig. 13); the rotation is continued

Fig. 14.

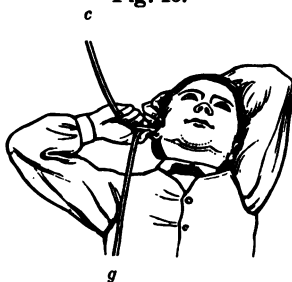


The head to one side, so that the cleansing fluid falls perpendicularly into the ear treated. *c*, Supply tube. *g*, Tube to conduct the water away from the injector. The force of the stream should be lessened while the head is in this position, to prevent dizziness.

toward the left (provided the right ear is the one washed), until the ear treated looks upward (Fig. 14),

the rolling motion is continued backward until the forehead again assumes the horizontal position (Fig.

Fig. 15.



The head thrown back so that the forehead is horizontal.

15), but this time the face is looking upward, then the head is rotated towards the right side, until the stream is thrown vertically into the ear (Fig. 16); the rolling

Fig. 16.



The head thrown over to one side, so that the stream enters the ear vertically.

motion is still continued until the forehead again assumes the horizontal position (Fig. 13), which com-

pletes one rotation of the head. These positions are assumed one after the other, so as to make one continuous movement of the head. From five to ten of these rotations, occupying from one to two minutes in all, are sufficient to cleanse the tympanic cavity.

The rapidity with which the cleansing may be accomplished, will depend upon the size of the aperture through the drum, the smaller the opening the greater will be the number of rotations that is required.

The solution used for cleansing the ear is made by dissolving common table salt in warm water (98°), in the proportion of about one heaping teaspoonful of the former to one pint of the latter. Patients soon learn the proper quantity of salt that should be put into the water, and the right temperature of the solution. Water, either with no salt in it, or with too much salt, produces a disagreeable sensation, while the right quantity produces a pleasant sensation; also that water low of temperature has an injurious effect.

If the secretions are offensive, five grains of salicylic acid and five drops of carbolic acid should be added to the pint of warm salt water.

It should be kept constantly in mind, that washing the ear can be overdone. The precautions that were given for cleansing the nasal passages (pp. 69) hold good for this organ. As soon as the cavity is clean, the application to it should be discontinued. It is a good rule to wash the ear as seldom and as little as possible, provided that it be kept clean.

After the ear is washed, the auditory canal should

be carefully dried with cotton that is well warmed. The cotton should not be tied on a stick or a hair pin and thrust into the ear, but it should be twisted upon itself so as to form a roll about one inch long, and a-quarter of an inch in diameter; it should then be warmed and made to enter the ear by a twisting motion with the thumb and finger; when the roll is well introduced it should be untwisted by an opposite motion. The untwisting will make the roll larger, and thus make it more certain to wipe dry the whole of the canal. Two or three rolls of cotton usually suffices to remove the moisture, after which the canal should be annointed with vaseline, using a small hair-brush.

After the canal is made dry, a *small* piece of cotton, well warmed, should be placed in the ear. This pledget should not be made to fill the canal so completely that it will prevent the interchange of air between the auditory passage and the external atmosphere, at least the upper fourth of passage should be left open. If ventilation is not maintained, the integument lining the auditory passage will be softened by perspiration, and the middle ear will be over-heated, and thus aggravate the disease.

Those patients who wear the ball of cotton in the ear, in the place of an artificial membrana tympani, will not require any pledget in the canal.

The cotton pledget that is placed in the ear, should be charged with salicylic acid; the charging is done by placing it in a saturated solution of this acid, and

allowing it to remain in it over night, it should then be taken out and gently compressed and laid aside to dry. Cotton thus treated has a beneficial effect on the secretions of the ear, probably by preventing them from becoming fœtid.

All patients who have suffered a perforation of the drum, should protect their ears against cold winds by covering them with "ear muffs," or by other means that will be as effective. A few minutes exposure to a cold damp wind, will be almost certain to increase a chronic otorrhœa, and a consequent further decrease of the hearing, if it does not occasion so severe an inflammation as to threaten the general health.

CHAPTER XV.

THE TEETH.

I have observed for many years that diseased teeth and gums tend to maintain the catarrhal inflammation of the mucous membrane of the nasal and pharyngo-nasal cavities, the throat and ears. It not unfrequently happens that the disease can be ameliorated only, so long as decayed teeth are allowed to remain in the patient's mouth even if they are painless. I have also observed in a few cases, that a catarrhal inflammation, especially of the antrum of Highmore, may cause the teeth to become diseased.

At the first visit of a patient, I make as thorough an examination of the teeth, as I do of the nasal passages. If the teeth are decayed, or the gums diseased the services of the dentist are not only earnestly recommended, but insisted upon as indispensable. Only a few illustrative cases will be required to demonstrate the correctness of these views, and to show that the teeth exercise no small degree of influence upon the system.

CASE I.—December 1866. Mr. H. æt 37 years, a lawyer, consulted me about a furious tinnitus aurium. He represented that the noise in his left ear was so very bad and so very annoying, that it not only deprived him of sleep, but that the melancholy tone was extremely suggestive of suicide as a means of relief. This symptom had been greatly aggravated

within the three weeks previous to his coming to me, by the effects of the use of the nasal douche. On examination I found that he had aural catarrh and of course had nasal catarrh, of which, as his history proved, he has suffered since boyhood. The catarrhal inflammation in both organs was relieved to a very great extent after about six weeks treatment; so also was the tinnitus. After this time, while the catarrhal inflammation continued to improve, the noise in the left ear remained about the same, when it was not aggravated by effort at amelioration by inflation.

Everything was done that was recommended in our text books of the day. I observed that the more thoroughly and closely that I followed the authors—especially observable when the Eustachian catheter was employed—the greater was the tinnitus. At length my patient observed, and right strongly did he state, that when I “left his ear alone” and mildly treated the nasal catarrh, the tinnitus lessened. Subsequently I tried the effect of letting the patient alone entirely, for ten days. The result was that the nasal catarrh increased, and with it, so also did the noise in the ear increase. After a few weeks further treatment I became very much discouraged with the case, and in this condition of mind, I caught at a straw, as it seemed to me at the time. I noticed that he had quite a number of decayed teeth and many whose crowns were entirely absent, leaving five or six half-covered roots in his jaws. The majority of these were on the left side, I recommended that the fangs be pulled out, and the diseased teeth and gums be treated.

The more that I spoke to the patient upon the influence of his diseased teeth upon his head, the more was I convinced that what was in the first place but

a slight suspicion, was in reality *the* obstacle that must be removed to secure success. So thoroughly was I imbued with the idea, that I was ready to make the non-compliance on the part of the patient, a sufficient cause for throwing up the case.

Dr. Homer Judd, then of this city, a well known dentist, being in an adjoining room, was asked to come in.

To him I stated the case and my recommendation. He stated that he did not know of an affection of the ear being relieved by treating the decayed teeth, but he knew that the nerves of the teeth and those of the ears, were branches of a common nerve; that pain in the teeth frequently caused pain in the ears and *vice versa*, and that as his teeth and gums were in a very bad condition, he recommended, as other means had failed to complete the cure, that his whole mouth be put in a sound condition. This should be done even if it did not do all that was hoped for it. The patient submitted.

The effect on the nasal and aural catarrh, and on the tinnitus, was quite marked, even before Dr. Judd had quite completed his treatment. Although the tinnitus did not entirely leave, yet it decreased, so that in a few weeks, during the daytime he had to stop and listen to the noise to ascertain whether or not it was still present. I have since treated him for his catarrhal trouble, but the ear symptom has not since given him any serious annoyance.

I have not, since this occasion, omitted to examine the teeth and gums of every patient. I believe that the work of the dentist has in many instances made my treatment shorter and much more permanent.

Many additional cases could be given, if it were required, that are equally as demonstrative. The

following statements of patients are placed here because the symptoms are rare, and to show, even more fully, the relationship between the teeth and the other organs of the system.

CASE II.—Mr. J. C., æt. 42 years consulted me in January, 1867. He was treated for four weeks for nasal catarrh. The treatment was so far successful that he had but little annoyance from the complaint, but it recurred after a few weeks intermission of the treatment. As he wore an artificial plate, I had not noticed that he had under it several roots of teeth from which pus continually flowed. Upon making the inspection he stated that at such times as his catarrh was troublesome, and especially when he was complaining of neuralgia in the head, his teeth were also painful. There were five roots in the upper jaw. Their extraction was recommended, and the next day this was done, the effect of which was to very greatly ameliorate all of his symptoms; his improvement was more permanent, his neuralgia almost never troubled him after that time.

CASE III.—Miss G. W., æt. 22 years, a singer in one of our church choirs, was treated in March, 1876, for naso-pharyngeal catarrh, and for improvement of her voice. On the first visit I observed that her teeth were in a very bad condition, and recommended her to secure the services of a dentist. This she promised to do, but from fear of the pain occasioned during their treatment, she delayed attending to it. Although the catarrhal affection was relieved, the inflammation of the vocal cords was but slightly ameliorated.

She left me and was attended by another physician for several months, with a like success. During the

spring of 1877, she again visited me for treatment, and I again insisted upon the dentist attending to her teeth. This time she complied. The treatment for the catarrhal affection was continued for a few weeks, the result of which was quite satisfactory to us both.

CASE IV.—Mr. —, minister, æt. 52 years, requested treatment for a hoarseness in May, 1877. During the course of his visit he mentioned casually that if any of his food or a hard substance became impacted between the first and second molar teeth of the lower jaw, he felt impelled to clear his throat by hawking efforts. On one occasion a small piece of fish bone became fastened between these teeth. He made frequent efforts at its removal, but was not successful. The result of the frequent efforts at cleaning his throat was, that in two days he was completely aphonic. The removal of the bone relieved him entirely of the throat symptoms. In a few days his voice returned again, with no treatment whatsoever.

CASE V.—Mrs. —, æt. about 32 years, married, stated, in October, 1877, that she had frequent attacks of palpitation of the heart, after she had taken a bad cold; also, that during the last three years she had not had her teeth attended to without giving rise to more or less palpitation. On one occasion the dentist was compelled to leave a tooth half filled, so severe was the palpitation.

CASE VI.—Miss —, æt. about 19 years, related to me in March, 1878, that during the last two winters, she always had pain in the left arm if she attempted to bite any hard substance on the left side of her mouth, such as the attempt to crack a filbert or a hazel nut with her teeth. The pain in the left arm was in every respect similar to the pain that is

not unfrequently experienced following severe catarrhal inflammation in the left nostril.

CASE VII.—Mr. —, æt. 42 years, desired in Dec., 1879, treatment for a continual clearing of his throat and occlusion of his nasal passages. He had also skin disease on the side of his face. The local and constitutional medication had the desired effect upon the throat and nasal passages and ameliorated the eczema also, but the most beneficial effect upon this complaint was produced by the dentist.

Dr. A. H. Fuller drew out the roots of nine teeth. In two weeks the eczema was nearly well and in one month more there existed no signs of it.

The following case is a striking contrast to those given. It shows, not the beneficial effect of the dentist's work, as there was in this patient *no* irritation of the teeth to be removed, but the effect of irritating the teeth, by even one of the most cautious dentists :

CASE VIII.—Miss R., of Quincy, Ill., professor of elocution, was treated in April, 1880, for paresis affecting one of the vocal cords. The case progressed as favorably as could be expected for several weeks, at the end of which time she had quite a number of teeth filled with gold. The time of filling occupied several weeks, at the end of which time she sat three consecutive days in the dentist's chair. The result was a very severe hoarseness and lighting up of nearly all of the inflammation that had been reduced by the treatment. The irritation subsided in about ten days.

She subsequently took a very severe cold, but it did not affect the vocal cords but to a very slight degree, showing that the irritation occasioned by filling

the teeth, produced a much more injurious effect on the still partially inflamed vocal cords, than did a subsequent severe cold.

CHAPTER XVI.

BATHING:

The remarks made concerning the too frequent changing of the under-garments by delicate patients, will apply with equal force to too frequent bathing of the body, by the same class of individuals. Ablution should not be performed oftener than the surface of the body requires cleansing, which in all probability, will not be oftener than once in one or two weeks, in warm weather, and once in four to eight weeks, in cold weather, or it may not be required at all during cold weather. As patients regain strength and flesh, they will observe that the oil on the skin will increase in quantity, and that with this increase extraneous matter will accumulate on the surface faster than when they were in a weaker condition, consequently, they will require to be washed more frequently; nevertheless, the bathing should be postponed as long as consistent with cleanliness, until full and healthful vigor is enjoyed.

The temperature of the bath and the air in the bath-room should be such as is pleasant to the bather. It is not uncommon to hear the opinion expressed that general bathing in cold water acts as a preventive of colds. This is far from being true even in a majority of instances. Those who are the most ardent advocates of this plan of preventing colds, are usually individuals who are themselves in full vigor of health,

and who are possessed of a strong constitution. In the case of a fat, hearty individual, cool water bathing may not take off too much oil from his body, as there is a superabundance of this non-conductor of heat secreted by his skin. It is principally on account of this superabundance that he requires frequent washings. At each of these bathings his body will react quickly and perfectly, but as respects those that are thin in flesh and in a weakly condition, the case is quite different. They do not possess the strength necessary to overcome the sedative effects of a bath at a low temperature, nor can they loose the oil from the surface of the body without injury.

The Turkish and Russian baths are beneficial to patients in full flesh, but patients who are in delicate health *should not* take either of these baths, they are too debilitating, and rob the skin of its oil, thus rendering them more susceptible to the bad effects of sudden changes in temperature. The frequency with which either of these baths may be repeated, will depend much upon the vigor of the patient; one, or at most, two baths a week, will be all that a catarrhal patient should take, even if he is in vigorous health. After eight or ten baths are taken, then one every ten to fourteen days will be sufficiently frequent. Great care should be taken to allow the body to cool off before leaving the cooling room. I have known of several instances in which a single Turkish bath paved the way for a cold so severe that it threatened the life of the bather, on account of the stay in the

cooling-room being of short duration. The concurrent opinion of a large majority of my patients who have frequented these baths, is that the bather who is liable to take cold easily, should not venture out-doors before he has remained fully one and a half hours in the cooling-room.

Since the fall of 1876, I have recommended those of my patients, who I thought were liable to take cold after these hot baths, to apply, just before dressing themselves, a small quantity of vaseline to the surface of the whole body. Most of them liked the effect of it; a few, who weighed in the neighborhood of 200 lbs., did not notice any good effect from its application, while those of them who were rather sparely built were sure that it had the effect of preventing them from taking cold, and that it seemed to prolong the pleasant and beneficial effects of the hot bath.

CHAPTER XVII.

APPLICATION OF OIL TO THE SURFACE OF THE BODY.

During the last five years, I have prescribed the application of an inunction to the surface of the whole body of every catarrhal patient who was *thin in flesh*, and whose *skin* was *dry* and *rough*. Such patients are very liable, partly on account of this dry condition of the skin, to "take cold" during those seasons of the year in which there are sudden and great changes of temperature; I have repeatedly noticed that these applications materially assist to increase the warmth of the body, and decrease the cold rigors that course up and down the back.

The beneficial effects following the inunction of children have been, as rule, more marked than in adults. I think this difference is mainly owing to the applications being made with more regularity and with greater thoroughness on the former than on the latter.

I was first lead to try these inunctions, in 1859, by reading an article written by the late Sir James Y. Simpson, of Scotland. He contributed the results of

his investigations on the "External use of Oil" to the *Edinburgh Monthly Journal of Medical Science*, October, 1853. This paper is republished in his work on Obstetrics. Second Series, page 441.

From the thoroughness of his observations and the very satisfactory results following the application of the oil externally, I resolved to try it for the amelioration of a case that I then (1859) diagnosed as acute phthisis. The effect of the applications was all that that could be desired. The profuse night sweats were at once lessened, and, after the fifteenth nightly inunction, entirely checked. The patient slowly recovered, made a trip to Pike's Peak—at that time a place of great attraction in the West—and at present is living in Wisconsin, in robust health.

I employed inunction on several other patients; and whenever they could be induced to use it in a proper manner, the benefits were marked; but the impossibility of procuring an oil that did not become exceedingly offensive on the body of the patient, compelled me to desist from using it, except in cases of children. As these little sufferers remained in the house, the disagreeable odor offended the nostrils of their parents only, who were ready to endure almost any discomfort so that it led to the patient's recovery.

As we now have an article, called by the arbitrary name of "vaseline," one of the residua of petroleum, which is inodorous, and remains so while on the body, and which may be applied to the skin of the most

delicate patient, not only without the least discomfort, but causing a pleasurable sensation, the time for again reviving the practice of making external inunction has fully arrived, not to be again driven into obscurity on account of the disagreeable odor of the agent employed.

I think that the most appropriate manner of again drawing the attention of the profession to the advantages of the applications of inunctions to the whole of the surface of the body, is to reproduce so much of the original investigator's paper, as will show both the history of its origin and the results of its practice, as achieved by him.

The whole article is so decidedly practical, and written in such a connected manner, that is difficult to quote from it, without impairing to some extent the force of that which is quoted.

In this article he says that his attention was called by a medical friend "to the healthy and robust appearance of the operatives in the woollen manufactories;" the operatives "themselves attributed the immunity which they enjoyed, from consumption, to the free external application of oil to their bodies, which occurred in various parts of the manufacture of woollen fabrics."

In further observations on this subject he found that the same immunity existed in other woollen factories. Another medical friend writes to him in the following terms: "I find the opinion is very general or rather universal, that the employment is remarkably healthy,

the workers being rarely, or almost never known to suffer from consumption or other chest affections, such as coughs, bronchitis or asthma."

Dr. Wilson, of Iverness, writes to him that "it is a popular notion that the workers employed are peculiarly exempt from phthisis and scrofula. The proprietor and manager of the mills inform me that they have invariably observed delicate looking and weakly children improve after admission to the works."

Dr. Joseph Bell, one of the medical inspectors of the factories of Glasgow, writes to him as follows:

"There is no doubt in my mind, that workers in our woolen factories are more robust, florid and healthy looking than those employed in our cotton factories. I have seen several workers enter the woolen factories, pale and emaciated, having been previously employed in cotton mills, become in the course of a few months fat, ruddy and in every respect contrasting strongly with their feeble, sickly appearance when I first saw them. One woman, who labors under chronic bronchitis, informed me that she is obliged to work in the woolen factory during the winter and spring months, as otherwise her cough and dyspnoea becomes intolerable. I have examined two other females who exhibit symptoms of incipient phthisis, but after working a few weeks in the wool-mills, these symptoms disappeared, and their general health became excellent."

Dr. Simpson received from other physicians letters to the same purport.

As to the cause of the comparative exemption, some have attempted to explain that it was their hygienic *state* that was the possible result of their healthy condition, or their exemption from chest complaints, or that it was attributable to the sanitary nature of the factory labor itself.

These two supposed explanations he examines carefully, and concludes as follows: "In other words, the multiplied testimony adduced regarding the health of the workers at the numerous cotton factories of this country shows that the mere nature of the work at the mill produces no immunity in those employed from consumptive and tubercular affections, and consequently it follows, that if in any variety of mill-working, such an exemption was found, this exemption could not be ascribed to the mere character of the factory labor or mill-work itself. And when we find that, while the cotton mill-workers are not free from consumption and struma, the wool mill-workers are comparatively exempt, we must evidently search for the cause of this difference and exemption in some peculiarities connected with the wool making itself.

"The great difference and peculiarity in woolen-mills, consists in the fact that while the hours, the occupation, etc., are much the same in each, in the woolen-mills a very large quantity of oil is used, and the bodies of the workers are brought in various ways freely in contact with it. It is, I believe, in this one item that the great difference between cotton-working and wool-working consists; and it is to this

material, the oil, as freely used in some of the processes of the wool-factories, that the operatives themselves universally, and, as I believe, properly, attribute the salutary nature of their occupation.

"In corroboration of the truth of this popular belief that the good effects of the woolen factory labors are ascribable to the oil employed, I have to state two points, viz.: that—"

"1. Similar exemption from scrofula and consumption is observed in other classes of workmen whose employment brings them in the same way freely in contact with fats or oils, as tallow chandlers, oil men, etc., and—"

"2. In the wool factories the degree of exemption among operatives themselves is by no means equal in all the processes of the manufacture, but is regulated by the more or less 'oily' nature of the departments of work in which they are engaged in the mills; so that they in general, markedly improve in appearance and health when set to work at the more oily processes; and often as markedly decline after leaving them."

This is followed by giving the weight of some of the workers at the time they commenced to operate in the more oily employments, and weighing them after they had been at work a few months, showing a very marked increase. "The fine appearance," he adds, "of the young workers, their rapid improvement when set to work in oil, their declension when they discontinue it, leave no doubt on my mind that the oil is the salutary agent."

In mentioning the mode or channels by which the oil may enter the system, he says: "Under such circumstances, we may suppose the oil to enter the bodies of the operatives by one of two channels, either by inhalation through the mucous membrane of the lungs, or by cutaneous application and absorption." He concludes on this point, that—"In all likelihood the more important, if not the only channel by which the oil gains access to the system in the case of the wooden operatives, is by its cutaneous application." * * * * "In the living human subject, we can readily gain clinical proof of the facility with which warm oil can be rubbed into the skin by watching the rapidity with which the liquid disappears from, and is absorbed from the surface of those who use oil-frictions, and particularly in the case of such persons as have followed the practice for a considerable time, and in whom the power of cutaneous absorption is hence increased. Besides, we have a further proof of this cutaneous absorption of oil, in the fact that those who use oil-frictions show exactly the same special constitutional effects from this mode of introducing it, as those who introduce oil into the system by swallowing it."

Of the systematic oil-inunction, as a medicinal measure, he says:

"In tubercular and other cases, these effects are sometimes as distinctly, though perhaps not as frequently, obtained from the external inunction of olive

oil as by the swallowing of cod-liver oil. I have seen a similar amelioration in the constitutional and local symptoms of the malady, and a similar improvement in the general health occurs under the one as under the other practice; one may, if necessary, be sometimes temporarily substituted for the other; or both employed at once when there is no contraindication to their combined and more certain action. *The restoration of the function of the skin, and the suppression of the hectic perspiration more rapidly and surely follows external inunction.* The increase in the weight of the body, which has been so much and justly insisted on as a favorable sign under the internal use of cod-liver oil, is occasionally most marked under the external use of olive oil. In a case in which this increase was specially watched, under external oil-inunction alone, the patient, who was carefully weighed, in forty-two days increased 24 lbs. in weight, a rate nearly as high as any, I believe, ever observed to occur under the employment of cod-liver oil internally. This patient's stomach could not retain cod-liver or other oil in any form that was tried. I have seen a child two years old increase in weight an ounce a day, for eight weeks, under assiduous oil-inunction, its stomach having for sometime previously rejected oils, and most other food, when swallowed. And in the external as in the internal use of oil, increase of weight obtained, is often greater than the mere weight of the oil introduced into the system."

In mentioning the diseases and circumstances in which oil-rubbing is indicated, he says: "In inanition, by whatever cause produced, and particularly when dependent on mal-nutrition or mal-assimilation, and combined with a *dry or disordered state of the skin*, the practice is often most advantageous." * * * * "The practice itself guards weak constitutions against the effects of changes of temperature and weather; and the feeling of cold and tendency to catarrh and chilliness,¹ attended upon various debilitated states, is sometimes entirely arrested and averted by oil-inunction."

He recommended that the oil selected ought to be bland and inodorous; that it should be applied moderately warm, and with a considerable amount and duration of friction; that the oil and friction should be applied to the whole cutaneous surface of the trunk and extremities, using "about a wine glass of oil;" that the application may be practiced twice or oftener in twenty-four hours, especially with children; that the best time for a single daily oil-inunction is immediately before retiring to bed, and that to save the bed-clothes, the patient should sleep in a dress of flannel, cotton or other material that stretches beyond the feet. He also recommends that the body be occasionally sponged with tepid water immediately before an application is made.

1. Italicized by the author.

The greatest hindrance to this practice, was, as I have already mentioned, the impossibility of procuring an oil that was inodorous; this, I think, is the only reason why Dr. Simpson's suggestions have been allowed to slumber ~~for~~ years; but happily this obstacle is now removed, as we have in vaseline, an article that is perfectly inodorous, and is not liable to become rancid on the body, as the other oils or fats do. The next objection to the practice, is its tediousness, as it requires the daily dedication to it of the ten or fifteen minutes that is usually required to make the inunction fully and perfectly.

The best means of applying the inunction is with a woolen rubber. This rubber is made of ten or twelve thickness of flannel, these layers are stitched on the face side of a cotton glove; in this way it is more easily held by the person making the application.

About one teaspoonful of the vaseline is spread on the woolen rubber—after it is once saturated by the inunction—and held close to the fire until it is quite hot; it is then applied in this hot condition to the surface of the body, with considerable pressure and with a rapid motion.

The room in which the inunction is applied, should be warmed to about 90° F. All of the clothing of the patient should be removed except the stocking-knit drawers, and stockings. The exposed portion of the body and the arms should be well rubbed with the hot woolen rubber, upon which the vaseline has been placed. The rubbing should occupy from three

to seven minutes on an adult, and half this length of time for a child. At the completion of the anointing of this part of the body, the stocking-knit under-shirt should be put on. The drawers and stockings are removed and the remainder of the body treated in the same manner, occupying about the same length of time.

The immediate effect of this application on all individuals who are thin in flesh, is a sensation of warmth over the whole of the body, the feet and hands included; particularly so, if these extremities have been habitually cold. The sensation of cold chills coursing up and down the back between the shoulders is soon arrested, and if the patient has been subject to night sweats, these also are soon abated, or they will entirely disappear.

Of course the effect of the friction is to redden the surface, by increasing the circulation, and thus induce a warmth of the body, but I believe that it is due to the inunction that this warmth is made permanent. The following experiment, which I have had my patients try quite a number of times, indicates that the permanency of the warmth is owing to the presence of the vaseline, viz: To rub one extremity with a hot flannel alone, and another with a flannel that had the hot vaseline on it. The extremity having the oil applied to it, remained warmer during the day, than the one rubbed with the hot flannel only.

CHAPTER XVIII.

TOBACCO ; ITS MENTAL AND PHYSICAL EFFECTS.

1st. Tobacco produces an exhilarating effect on those individuals only who have acquired the tobacco habit.

When first used, the effects of tobacco are usually those of a nauseant and depressant to a marked degree. At this early stage it has no exhilarating effect whatever. It produces no effect that will induce the consumer to continue its use. After a few weeks use, the narcotic and exhilarating effects, both at the same time, begin to be experienced to that degree that toleration to its nauseant effects have been established. Secondary effects of tobacco begin with this toleration and manifest themselves by mental phenomena and physical symptoms. The latter consist in the congestion and sequent enlargement of the blood vessels and relaxation of all the tissues brought in contact with tobacco, which effect is brought about by the action of tobacco on the sympathetic nerves of the mucous membrane of the superior portion of the respiratory tract, and the mental phenomena, which is the one under consideration in this proposition, are experienced after a period of abstinence, long in the beginner and short in the old consumer, and manifest themselves by symptoms of unrest, dissatisfaction, forgetfulness, impatience, disquietude, irritabil-

ity and other evidences of an unhappy condition of the mind. The victim is unpleasantly aware that he lacks something, something that will bring him again *toward* his usual mental quietude. The relief from this mental unrest is called an exhilaration by him, for much the same reason that the habitual drinker of whisky calls his morning dram a tonic. While both the tobacco and whisky may bring their victims again *toward* their usual condition, it is hardly necessary to say that the normal condition is *not* reached by either of them, for if the normal condition was reached, it is evident that the discontinuation of either habit would not be accompanied by such mental and nervous disquietude.

I presume that no one will say that the boy undergoing the agony of the nausea occasioned by too rapidly smoking his first cigar enjoys its effects, nor will he say that his 50th or 100th cigar yields him any enjoyment, beyond the pleasure afforded him from the thought that he has at last become so far habituated to its effects, that he can perform the act, that raises him (in his own estimation) all the way up to manhood without being sick at the stomach. As yet his sympathetic nerves have not been sufficiently impressed to experience the peculiar or exhilarating effect of the narcotic, showing that the exhilaration is experienced by *those only* whose nervous system has become perverted by its effects, the perversion and exhilaration always maintaining due re-

lation to each other, the greater the perversion the greater the exhilaration.

2d. The pleasurable effect arising from the use of tobacco is not experienced except during the time that it is depressing the system.

Although this proposition is not in accordance with the views expressed by either its opponents or friends, it is nevertheless shown to be true by the fact that a full meal or spirituous drinks or exposure to out-door air or recovery from sickness increases the desire for tobacco by increasing the ability to tolerate it.

My own experience of the effects of tobacco—during a period of fifteen years—was that I very many times smoked until I had lost all desire and taste for food, I frequently would have abstained from taking food, had it not been that I knew from past experience, that after eating I could again enjoy my pipe, that is, I ate, not because I was hungry, but because the food relieved me of a semi-conscious exhaustion, not an exhaustion such as would follow from an empty stomach, as I had not fasted, but a nervous exhaustion, raised out of this exhaustion by my food, I could again resume my pipe and again enjoy its depressing effects.

There are other conditions of the system that show as plainly as what has already been cited, that tobacco is a depressor of the nervous energies. The conditions alluded to are nausea, hunger, sickness and excessive grief. These conditions annul all desire

for this narcotic by rendering the system too weak to tolerate its depressing effects. In other words, agencies that raise the tone of the system, so that tobacco has the opportunity, as it were, to lower it, increases the tobacco-appetite by increasing its ability to tolerate its depressing effects, and agencies that lower the physical energy so low that they leave no room for tobacco to lower it without causing nausea, decrease its toleration and desire for it at the same time.

It is thus seen that the system must be in a more or less vigorous condition to allow the use of tobacco, plainly proving that it is a depressor of the nervous system, and it as plainly follows that it is while the depressing process is going on, that the pleasurable or exhilarating feeling is experienced.

3d. It is quite questionable whether the exhilaration following the use of tobacco causes the consumer of it to enjoy life to a greater degree than do those who do not use it.

The vehement opponents of the use of tobacco denounce it as a poison, and not only an originator of many functional disorders, such as neuralgia, anæsthesia, hyperæsthesia, diminished physical energy, etc., but some of the most dreaded of organic diseases, such as amaurosis, consumption, cancer, insanity, etc., they base their argument on the continual presence of functional disturbances. On the other hand, its friends consider it to be a harmless luxury, one that

soothes irritated nerves, clears and sharpens the exhausted intellect, fills an indefinable vacancy, produces a satisfied and calm condition of the mind, dispels loneliness, relieves weariness and induces repose. They assume that its bad effects are *always transitory* and that no *organic lesions* are ever observable. On these they base their defence.

While I am certain that tobacco assists in the maintenance of many functional disturbances, I do not agree with its opponents, that it usually acts as a poison to those who are habituated to its effects, or that it can of itself cause cancer, amaurosis, consumption or insanity, nor do I agree with its friends that it is a harmless luxury. It does not soothe irritated nerves, until its secondary effects have first irritated them. It would, of course, be absurd to say that it soothes unirritated nerves. It cannot clear and sharpen the exhausted intellect until its secondary effects have first beclouded, dulled and exhausted the intellect. It cannot fill an indefinable vacancy until its secondary effects have first caused this vacancy. It cannot induce a calm and satisfied condition of the mind, until its secondary effects have first produced a restless and unsatisfied condition of the mind. It cannot dispel loneliness until its secondary effects have first occasioned the loneliness. It cannot relieve weariness until its secondary effects have first caused weariness, nor can it induce repose until its secondary effects have caused sleeplessness. Does the novice, who has just smoked his first cigar, say that it soothes

his nerves, clears and sharpens his intellect, satisfies and calms his mind, or induces repose? Even if his nerves were irritated, his intellect dull and exhausted, his mind restless, his eyes sleepless, would this cigar give him the last relief? I presume that my readers will not require an answer to these questions.

If tobacco produces no effect that will induce the novice to continue its use; if it must have a habitual consumer on whom to produce its exhilaration by annulling its secondary effects; if it must depress the system to relieve nerves that it has irritated, calm and satisfy a mind that it has made restless and unsatisfied, drives away a loneliness that its previous use has occasioned, is not this positive proof that this narcotic *relieves* its victims from *nothing*, save from its *own effects*. It also as plainly proves that until the victim is suffering from the effects of tobacco, it produces no exhilaration, it has no relieving virtue. Does the victim smoke or chew, because he is restless, mentally or physically? Tobacco caused this restlessness, the relief of which he calls exhilaration. Does he smoke or chew because he has a headache? Tobacco gives rise to the congestion that resulted in the headache, the relief of which he calls exhilaration. Does he smoke or chew because his throat is dry? Tobacco occasioned the dryness, and so on with every unpleasant sensation from which he asks tobacco to relieve him.

As tobacco must first depress the system, irritate the nerves, becloud the intellect and make the mind

restless before it produces its exhilarating effects, what evidence have we beyond the assertion of the victim, whose nerves have been perverted, that this exhilaration causes greater enjoyment of life than he would have experienced if he had not been habituated to it? Is the consumer of the narcotic, who is fully under its influence, in a fit condition, mentally, to judge whether or not he enjoys life better in consequence of its use? If his sensibilities are perverted, is not his judgment, with respect to these sensibilities also perverted?

There is no doubt in my mind, but that tobacco perpetrates most successfully, both a deception and a fraud on every one of its victims, by causing them to believe that its effects are exhilarating, when, in fact, this so-called exhilaration is in reality but the sensation of relief from secondary effects and a hallucination, which is slowly, imperceptibly brought on by the narcotic and perverting effects of tobacco on the sympathetic nerves. My own personal experience aids me in coming to this conclusion.

4th. The congestion occasioned by the action of tobacco on the mucous membrane of the superior portion of the respiratory tract, resembles, in many respects, the congestion resulting from the effects of a cold and like the effects of a cold, some of its effects are transitory and some are permanent.

It is not necessary to detail all the transitory effects of tobacco; suffice it to say that they consist in part of the nausea of the novice, after toleration has

been established, the nervous trembling of the hands, the headache, the heartburn, the hiccough, the perverted taste, the dizziness, the dyspepsia, the constipation, the palpitation of the heart, the dry throat and nostrils, the sore tongue, cheeks and lips, offensive breath, etc. The permanent effects consist of the local relaxation and congestion of the mucous membrane of the superior portion of the respiratory tract, and of the *results* following and originating from this relaxation and congestion. The deleterious effects of tobacco consists of these *results*, not of the primary relaxation and congestion *per-se*.

The question may be asked, how can a relaxation and congestion, arising from the effects of tobacco, be distinguished from a similar condition arising from a cold? It is quite difficult to distinguish between the effects of the moderate use of tobacco and the effects of a cold, but it is not very difficult to point out, judging by the degree of congestion, the immoderate user of this narcotic.

The female of ordinary good health, who has had one continuous cold from her girlhood to her fortieth year, and the consumer of tobacco of ordinary good health, who, from his fifteenth to his fiftieth year has used this narcotic moderately, have equally diseased nasal and pharyngo-nasal cavities, that is if both of their temperaments are the same. If the female has black hair and the tobacco victim has light hair, then his nasal cavities will be in a much greater diseased condition, than her's and *vice versa*. If a light-

haired boy commences, at his fifteenth year, to use tobacco inordinately and continues to use it excessively, the resulting congestion will be so severe that it will ultimately involve other important organs; the brain, the stomach, the heart, the lungs are almost certain to be implicated to such an extent that life will be shortened by many years, and when he dies, mortification of his body will commence first in the nasal cavities.

There is another evidence of the permanent effect of tobacco that is not unfrequently observed, and in this, too, it resembles the effects of a cold. I allude to its effect on the mind. The catarrhal female patient of thirty, and the tobacco victim of forty, are both equally less fit for mental exertion than they would have been, had their respiratory tracts not been maintained for this length of time in a diseased condition. Nor, so far as is known to me, can the mucous lining of either of these tracts be made by any course of hygienic measures or any method of local or constitutional treatment, to again fully resume its normal condition. This being the case, it effectually disposes of the assumption of the friends of tobacco, that its effects are *transitory* and that no organic *lesions* follow its use.

If the victim of the tobacco habit is an inordinate user of this narcotic, and is also in a weak physical condition, the result of a catarrhal inflammation of the respiratory tract, his eyesight, his hearing and the functions of his brain will thereby be impaired. It

is a symptom, quite common with catarrhal patients, that they find it difficult if not impossible to continue, even for a comparatively short period of time, any train of thought that requires unusual mental exertion; their mind will involuntarily fly off to irrelevant subjects, but with the tobacco victim, who is also a catarrhal patient, this wavering condition of the mind is so frequent and so persistent that he soon becomes so wearied in his efforts to maintain his mind on his subject, that he gives it up in despair and betakes himself to his narcotic solace, allowing his mind to take its dreaming, objectless course. Strange as it may appear to those who are not under the influence of tobacco, this individual calls this acquired condition of his mental being, happiness, and the agent that begets this state of his mind, a luxury.

5th. The local effect of tobacco on the mucous membrane of the nose, throat and ears, is as predisposing to catarrhal disease, as is inefficient and insufficient clothing in the case of females.

It is not proposed, while attempting to prove the correctness of this proposition, to demonstrate at this time, that the want of the proper kind and amount of clothing in the case of females, induces catarrhal inflammation, but to show that the local effect of tobacco is as efficient in *preparing* the mucous membrane to take on catarrhal disease, as deficient clothing in females is in *exposing* them to colds, so that they contract catarrhal inflammation.

It is well known that catarrhal inflammation, as a rule, originates from colds alone. In the case of females, it is not at all difficult to account for their being so liable to be affected by cold, as both the method of clothing themselves and the small quantity of garments employed, is such as to render them liable to take cold on even slight exposure. With males, the method and amount of clothing cannot account for their taking colds, for it is well known that, as a class, they always clothes themselves sufficiently warm to prevent injury from exposures to ordinary weather, therefore, all things being equal, they as a class should be free from catarrhal disease, at least much more free than are females, but, as will shortly be shown, males are more frequently sufferers from catarrhal inflammation of the nose, throat and ears than are females, although the latter are less protected by clothing.

From the table on page 152, it will be seen that from 1866 to 1879 inclusive, I treated 2,790 patients for catarrhal disease of the nose, throat and ears. It will be seen that it is at the time of life that patients are mostly under the influence of tobacco and are experiencing the injuries from insufficient clothing, that they are the greatest sufferers from catarrhal inflammation and its consequences. Up to the tenth year, both sexes are about equally exposed and equally protected, consequently equally affected, there being 175 boys and 175 girls. From the tenth to the fifteenth year, the boys, although more exposed to the inclem-

ency of the weather than they had been heretofore, are more warmly clad than formerly. They are now wearing woolen underclothes, woolen neck wraps, boots, overcoats, warm caps or hats, etc., while the girls of equal age, although much the weaker sex, and nearly as much exposed to colds as they were at an earlier age, are yet more thinly clad than they

TABLE.—NUMBER OF PATIENTS TREATED FROM 1866 TO 1879, INCLUSIVE.

AGES.	TOTAL.		TOBACCO USED BY MALES.	
	Males.	Females.	Used.	Not Used.
4 mo. to 1 year.....	16	18		
1 year to 3 years.....	27	26		
3 years to 5 ".....	36	31		
5 " 8 ".....	50	39		
8 " 10 ".....	46	61		
10 " 15 ".....	80	154	27	53
15 " 20 ".....	108	231	52	56
20 " 30 ".....	317	490	234	83
30 " 40 ".....	506	237	427	79
40 " 50 ".....	180	32	154	26
50 " 60 ".....	72	6	60	12
60 " 70 ".....	23	2	16	7
70 " 80 ".....	3	0	2	1
80 " 90 ".....	1	0	0	1
	1463	1527	972	318
	2790		1290	

formerly were, especially during the season of social gatherings, lectures, operas and theatres. Between these ages, 80 boys and 154 girls were treated, 2 of the latter to 1 of the former. Although the boys could have been but a very few years, "boosting" themselves into manhood by the use of tobacco, yet we see that in this short time this narcotic has al-

ready produced one-fourth of the number of the cases treated.

From the 15th to the 30th year, the influences of tobacco and of deficient clothing are still more marked. The effects of tobacco have, by this time, produced a greater degree of relaxation and congestion in the mucous membrane, thus preparing it to be still more easily affected by even slight changes of the weather. The females of this period of life are still more thinly clad, although they are still more liable to the interruption of the physiological functions of their organism from taking cold, there being 425 males to 721 females. Of the 425 male patients, 139 did not use tobacco, colds alone being the cause of their catarrhal complaint, leaving 286 persons who used tobacco, and who would not have been patients, had it not been for the effect of this narcotic.

From the 30th to the 40th year, there is a very remarkable change in the relative proportion of the sexes affected by catarrhal diseases. Instead of the females being greatly in the majority, as they have been from the tenth year, their minority is even a greater contrast, there being 506 males to 237 females. I account for this remarkable transfer of the minority to the male column in this way: the females have, by this time, changed their condition in life, so that they are not so much exposed to great and sudden changes of temperature, having been married, and besides this, they have learned, from past expe-

rience, that they must clothe themselves more warmly than they formerly did; while many of the most affected have died before reaching this age.

With the male portion of this list, we see that tobacco wielded a still greater health-injuring influence; for, of the 506 patients treated, 427 of them were addicted to the tobacco habit. The number who owed their catarrh to colds alone, was 79 or less than one-sixth of the whole number.

If we take a review of the relative proportion of patients who used tobacco, as compared with those who did not use it, we will see that its bad effects increased with the length of time it had been used. From the 10th to the 15th year, only a little over one-quarter of the whole number treated were consumers of tobacco; from the 15th to the 20th year, this proportion increased to nearly one-half; from the 20th to the 30th year, the proportion grew to two-thirds, while from the 30th to the 40th year, more than four-fifths of the whole number required medical treatment on account of the injurious effects of this narcotic. Not only were these patients made patients for the time being, but the mucous membrane of the superior portion of their respiratory tracts is so seriously affected that it will require from three to ten years for the mucous membrane of the younger patients to again resume so much of its normal condition that they will not be conscious that they have nasal passages or a throat. These figures plainly show that tobacco *prepares* the mucous membrane, so that it

can be affected by even slight exposures to colds. It also shows, that what insufficient and inefficient clothing does to females in *exposing* them to the effects of sudden and great changes of temperature, tobacco does for its victims in *preparing* their mucous membrane to take cold, both the tobacco and the deficient clothing tending to induce catarrhal inflammation. For this reason it is as useless to treat a patient who continues to use tobacco as it is to treat a female who refuses to protect herself with a sufficient amount of the proper kind of clothing.

6th. *The local effect of tobacco on the mucous membrane of the superior portion of the respiratory tract causes a more permanent relaxation and congestion than any known agent.*

My attention was first called to the relaxing and congesting influence of tobacco in 1862. I then had a patient who was a great sufferer from nasal and aurial catarrh, and who smoked and chewed excessively. He frequently expressed himself as satisfied that he was injuring himself by this narcotic, but the habit had so much of a hold on him that he did not make the effort to discontinue it, nor did I, at the time, think that the tobacco was injuring him to the extent that I now know. He was under my care for about three months and then died. I made a very careful post-mortem examination of the nasal and pharyngo-nasal cavities and found the mucous membrane in them, in an excessively congested condition. It was of a black brown color and œdematous, showing that

mortification had taken place before death. At the same time I made two other post-mortem examinations, on one of which the mucous membrane in the nasal passages was nearly of the normal color, that is but little darker than the color seen during life. On the other case the nasal passages were black-red, but not of so deep a dark color as were the nasal passages of my patient. On the same day I met the physician who had this patient under his care. Upon remarking to him concerning the peculiarities of the case and of the post-mortem examinations, he stated that his patient also was a habitual smoker. This determined me to look into the relationship of the smoking and the dark appearance of the nasal mucous membrane. To do this, I then went in search of the physician who had charge of the case whose nasal passages were found in a comparatively normal condition. I learned from him, from the nurse and from other patients who lay on beds immediately adjoining, that this individual had not used tobacco in any form.

For the purpose of thoroughly investigating this, with other allied subjects, I made, during the following three years, not less than twenty other post-mortem examinations of a similar kind, and, judging from the state of the mucous membrane of the nasal passages, I successfully selected, in every instance, every one of the bodies, who during life had been habitual smokers, the mucous membrane of such being always of a very dark color, much darker than that of the

non-smoker. During the last fourteen years, my opportunities for making post-mortem examinations have been very limited, probably not more than twenty were made in time, but the observations made in 1862 hold good in every instance up to the past winter, at which time I examined two heads, one that of a boy and one of a negro; the former's nasal passages were darker red than is usually seen during life, the latter's, black brown. The negro had been a user of tobacco. The boy did not use it, evidently showing that the effect of tobacco is to produce so permanent a congestion that it amounts to a paresis of the parts. I will now ask, is it true that the effects of tobacco are transitory? Is it true that it leaves no organic lesions?

7th. As tobacco depresses the system while it is producing its pleasurable sensation and as it prepares the mucous membrane (by causing a more permanent relaxation and congestion than any known agent) to take on catarrhal inflammation from even slight exposure to colds, it should require no further evidence to show that its use ought to be discontinued by every catarrhal patient. The only question remaining to be answered is, shall its use be discontinued at once, or shall the victim "taper off" in his endeavor to become master of himself?

A peculiarity of the effect of tobacco upon the system, is that the victim is not aware of the hold it has on him. As he throws away the cigar or spits out the quid, he will not for a moment acknowledge that he is not master of his desire and appetite. It seems but a trivial matter to brake off its use, nor does he know

the hold it has on him until he makes the attempt to discontinue it. Then to his surprise, what he thought could be done with but little privation, or without a struggle, demands his utmost resolution, nor is the desire overcome without undergoing at least a six months ordeal, the first three weeks of which is called a "twenty days horror" by many of the victims.

I will give the following dialogue and partial history of a patient's tribulations in endeavoring to overcome the tobacco habit. Although the questions and answers are nearly a repetition of one another, yet they contain some points of interest and some of instruction.

Question—Capt. W. W. A. Doctor, how about this tobacco. Can't I get over this throat trouble unless I stop both chewing and smoking?

Answer—I stated at the time you made the first visit, that if you discontinued the use of tobacco, your throat would improve to a considerable degree without any other than constitutional treatment, while with its continued use, all treatment would fail but to merely allay prominent symptoms, and that these effects would last but a short time after the discontinuance of the local application.

Ans.—Capt. A. All right, sir; I will stop it. It will be no trouble to do that.

He came back at the appointed time—it being the fourth day in which he had not used tobacco—was treated and had taken a few steps towards the door,

when he returned and said: "Did you say that I ought to stop the use of tobacco *entirely*;" emphasizing the last word.

To an affirmative reply he said, "All right, sir; I guess I'll make it."

A blind man could see from his questions and replies, that this habit, that he thought could be broken off without any trouble, was becoming exceedingly interesting. About one week after this he said, with a slight hesitancy, but with a serious countenance: "Did I understand you to say that it was positively required that I should not use any tobacco at all?"

On receiving an affirmative answer, he replied, "All right, sir; I guess I can get along without it; I have made up my mind to make the trial, but" (with a smile on his face) "it is a fearful trial on one's resolution sir. About half the time I do not know what I am about; I feel as if I wanted something; I cannot read the papers, I cannot stay at my office, and cannot be satisfied at home, because I have my business to attend to. In short, I feel very miserable."

About one week afterwards he said, "My throat feels pretty well now. Don't you think I can take a small chew, just a very little nibble? I do not think it would do me any harm. If I cannot do that, can't I smoke a little at home? You may be sure that my wife will not let me smoke too much."

The reply was, that as his throat had been so well during the last few days, if he continued to abstain, all the disagreeable symptoms (they were

frequent spasms of the glottis at night after he had retired), would soon cease, also that he would soon lose the intense desire for tobacco.

He replied "All right, I want to get this thing well," pointing to his throat. About ten days afterwards, having finished the local treatments of his throat, I remarked to him that he had missed several appointments, to which he replied. "Yes, sir; I knew it; I thought it would be an easy matter to stop the use of tobacco. The fact is, I did not then know whether I could or could not stop, until I had commenced to make the trial, or rather, until I had got some distance on the way; then I found that something strong had got hold of me sure, but I did not touch it in any form, until last Monday. On that day I was offered a good cigar—a good cigar to a hungry man like me, is a very great temptation I tell you—I smoked a part of it, my throat got a little dry from it, but in the morning it got all right again. I expected to have come here at my usual hour, but was again offered another good cigar, and the temptation was so great, that I smoked the whole of it. My throat at first was not dry. This pleased me, but during the afternoon I forgot (?) myself and took a small chew which my clerk gave me. He said, I looked as though I wanted a little. After this, I felt a slight sticking pain in the left side; this increased rapidly, but next day I scarcely felt it. I thought that I would stay away until all the feeling of pain from the effect of the tobacco had left before I came around again."

He was conscious of a great improvement while he was not using tobacco. He was very willing to agree to any arrangement for the gradual discontinuance of its use, but the total abstinence plan he did not wish to continue. As he thought the chewing did not injure his throat as much as the smoking, he proposed to take a very small chew at such times as he felt compelled to do so. This was not to be repeated oftener than three to five times during the day. He thought that this would be a great improvement on his old habit, as he had been accustomed to both smoke and chew; sometimes even having some tobacco in his mouth during the hours of sleep. The result of this trial was not very satisfactory. He frequently took a chew in violation of his promise as he said, "before he thought of it."

The next plan that was tried, was to separate his tobacco into small parcels containing what he called a very small chew, a nibble. Each parcel was to be taken at a stated time, the time being marked on the wrapper. This was productive of better results, at least for six or seven weeks.

At the end of this period, he contracted a cold, which seriously affected him. While he was in this condition it was proposed that he should discontinue the use of tobacco for three weeks, and then if the improvement of his symptoms continued, it was hoped that he would consent to a further abstinence which, aided by a hope for the decrease of the desire for tobacco, we expected to increase the time to four or five

weeks longer, but consented to abstain for only two weeks longer.

During this time he was compelled to stay at home. At the end of this period also, his improvement was very satisfactory. Fortunately he had gained sufficient control of his desire for tobacco that he was enabled to continue the abstinence for a longer period, but was still compelled to stay most of his time at home. At the end of about four months, his desire for tobacco was so much lessened and the beneficial effect on his health was so manifest, having gained eighteen pounds during that time, that he determined never to use it again. He kept his promise, which was made in 1868, until 1876; by this time he had entirely recovered from his throat trouble. In this year he recommenced the use of tobacco. In thirteen months all his former symptoms returned, for which he was treated a few times, receiving relief only. In the Spring of 1878 he was taken seriously ill. For this illness he employed a homœopathic physician. Quite a number of other physicians were called in during his sickness, the result of which sickness was death.

Various plans have been devised and remedies advised as substitutes for tobacco, to enable the victim to overcome the habit, but the most successful method that I know of, is its *discontinuation at once*, and suffer for a few weeks, the effect of the abrupt abstinence. The peculiar nervous sensation following the total abstinence is somewhat lessened by taking about $\frac{1}{4}$ of a

grain of sulph. quinine, in powder placed on the tongue, and then chewing a small piece of fat yellow pine. Neither the pine nor the quinine are antidotes, the latter is a tonic to the nerves, the former gives the jaws something to do.

Many patients are enabled, in this way, to break off the habit without a great deal of inconvenience; others abstain for a time, then recommence so soon as their catarrhal affection has ceased to be a cause of anxiety.

CHAPTER XIX.

COLDS.

A cold should be "driven away" as soon as possible. It should not be allowed to "go off of it itself."

The effect of a cold is to enlarge the blood vessels of the part attacked, consequently if the cold should continue for several days, or is allowed to *slowly* pass off, the muscular coat surrounding each blood vessel will have lost some of its contractility, so that even when the irritation that prevented the uniform circulation of the blood ceases, and the consequent congestion lessens, the vessels will be more liable on account of this atonic condition, to again become affected on the next exposure. This second cold—if contracted before the blood vessels have entirely recovered from the dilating effect of the first cold—will again cause a congestion which will be still greater than the former; the diameter of the still dilated vessels will be greater than before; consequently, when this cold passes off, the vessels will be in a still more weakened and more relaxed condition.

Thus each cold prepares the sufferer to take the next cold more easily, and so on with each succeeding cold. This is the way, *the only way*, that the chronic catarrhal condition is brought about. The patient should be strongly impressed with the fact, that it is while a cold is "wearing off," that the chronic catarrhal inflammation "*wearing on*."

Even when patients have been successfully treated and have remained in good health for several years, a slight cold, if allowed to slowly pass away, will prepare them for another, but more severe cold. A continuance of this neglect will eventuate in the return of the catarrhal inflammation, not only to its original severity, but to a far more severe form.

On the other hand, if each cold is checked, and whatever effects it has produced are quickly removed, there is less liability of the patient to take cold and should a cold be taken, it will produce less severe results.

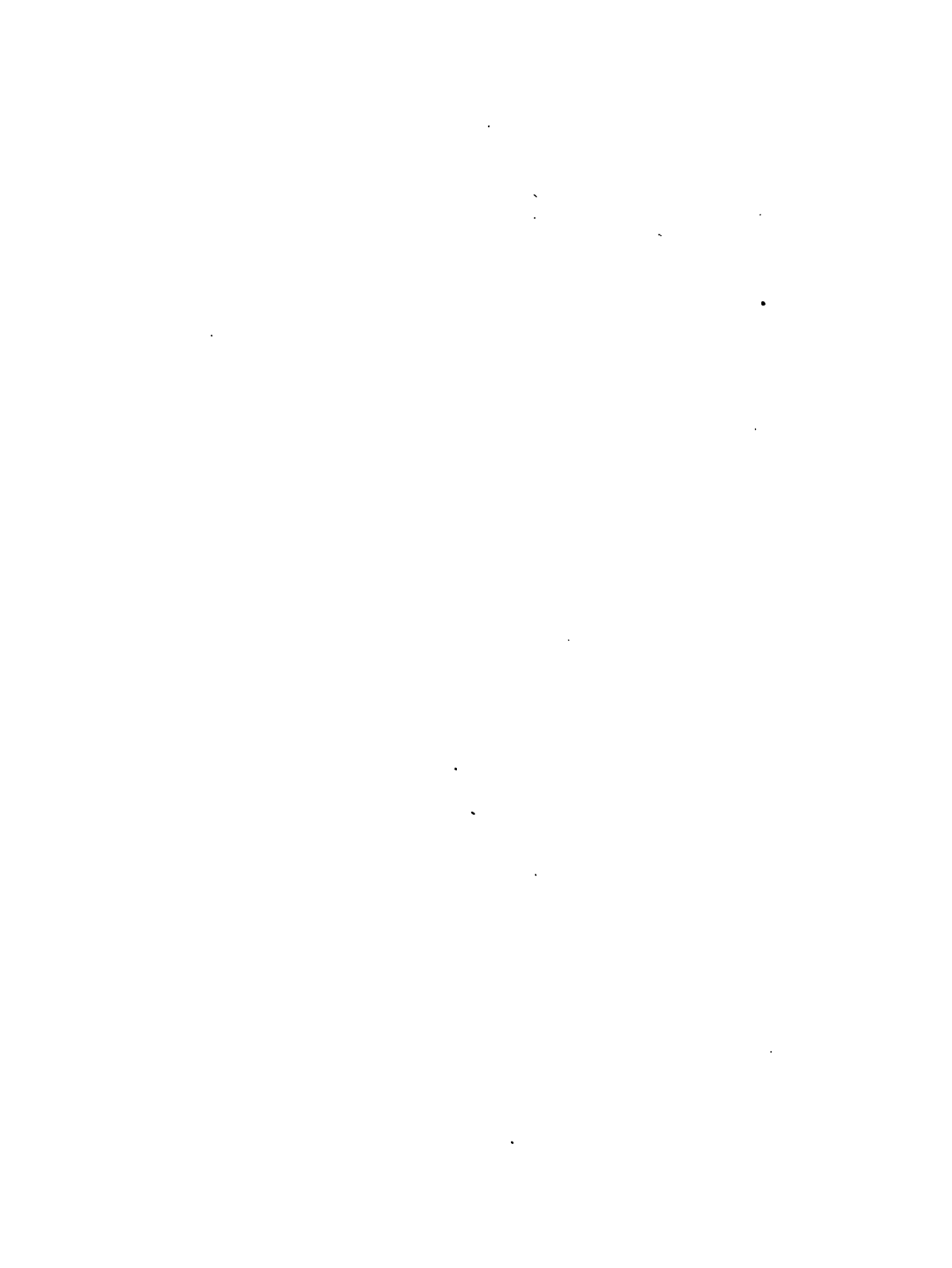
The first manifestations of a cold are usually but slight. In very many respects, a cold, with a catarrhal patient, and a fire, in a wooden building, may be likened to each other. Both the fire from the match and the cold with the patient are but trifles at the commencement, yet the one may result in the utter destruction of the house; the other in the death of the individual. As with a fire, so it is with a cold; a very small quantity of water will extinguish the former, and a very little care will drive off the latter, if both are taken in time; but if the fire is allowed to get under headway, what might have been extinguished with a teaspoonful of water, will require a bucketfull, and if the bucketfull is not used at the proper moment, a much larger amount of water will not have the desired result. So it is with a cold; taken at the start, a very little care is all that is required to prevent its bad results, but if it is al-

lowed to pass on for a day or two, what could have been obviated by a little care, may require days of care, while the patient is in bed, or if neglected even to this stage, it may ultimately result in the patient's death.

The first manifestations of a cold are usually observed in the evening. Even if these symptoms are slight, the patient should be instructed to regard them as of great importance. At this stage of the disease a ten-grain dose of quinine on going to bed and five-grains taken the next morning, will usually be sufficient to cure the cold. A laxative pill should be prescribed if the bowels are in a constipated condition.

It may be required to repeat this one or two evenings and mornings, but in the majority of instances, especially if the patient is under successful treatment for his catarrhal complaint, one course is all that is required.

If the cold is so severe that it will require a third course, it will be well for the patient to bathe his feet at bedtime, as described on page 51. If the cold has been allowed to progress for four or more days, then a different course of treatment will have to be instituted, which can only be indicated by the patient's condition at the time, as the complications will, under these circumstances, have become too numerous to be mentioned here.





INDEX.

Acts of commission and omission.....	54
Amount of clothing that should be worn by both sexes ..	44
Anger, its bad effects on Catarrh.....	65
Application of oil to the surface of the body.....	130
Application of the catheter nasal douche.....	102
Bare feet, colds taken by.....	55
Bathing.....	127
Beard, Dr. Geo. M.....	60
Bell, Dr.....	133
Bonnets.....	34
Boots.....	49
Candies, cake, etc.....	61
Carbolic acid.....	76, 106, 117
Case I.....	120
Cases II and III.....	123
" IV, V and VI.....	124
" VII and VIII.....	125
Catarrh grows on patients.....	30
Catheter nasal douche.....	100
Charcoal crackers.....	61
Children, under-clothing for.....	45
Chloral hydrate for the feet.....	53
Chronic Catarrh, the necessity for hygienic measure in....	25
Cleansing the ears.....	107
Cleansing the nasal and pharyngo-nasal passages.....	68
Clothing.....	40
Cold parlor.....	56
Cold water, its effects in the nostrils.....	76, 106
Colds, how to cure them.....	164
Colds incurred by draught, night air, and by petty acts of commission and omission.....	54
Colds, the importance of preventing.....	30
Cool water for the feet.....	53

Comparative amount of clothing worn by women and men.....	42
Cotton in the ears	118
Cotton stockings.....	49
Damp bed sheets.....	58
Decayed teeth, the effects of.....	120
Deficient clothing the cause of Catarrh.....	41
Dentist, his service recommended.....	120
Depressing effect of tobacco.....	143
Dialogue on tobacco.....	158
Diet.....	60
Disposition of the mind	63
Dobell, Dr. Horace, of London.....	57
Door-steps, colds taken by sitting on.....	55
Draughts, colds incurred by	54
Dress in females.....	41
Drive away a cold.....	164
Drying the ears.....	118
Dumb-bells.....	62
Ear-ache from the use of the nasal douche.....	96, 97, 98
Ear injector, modified.....	108
Ear muffs.....	119
Ears, cleansing of.....	107
Edinburgh Medical Journal.....	131
Effect of cotton and woolen under-clothing.....	44
Effects of vaseline on the surface of the body.....	140
Exclamations of women concerning the amount of clothing.....	43
Exercise.....	62
Exhilarating effects of tobacco.....	141
Fashionable hat.....	34
Feet.....	49
First position of the head in changing the nasal passages.....	69
Foot-baths	51
Fœtor of the feet.....	53

INDEX.

171

Frequent changes of under-clothing.....	47
Fresh air.....	58
Friend, who is too slow in taking his or her departure....	55
Fuller, Dr. A. H.....	124
Furs.....	38
Garters, elastic and non-elastic.....	50
Gloomy mind.....	67
Gymnastic exercise.....	62
Hair.....	36
Hard blowing of the nose.....	70
Hardened secretions in the nasal passages.....	77
Head, its protection.....	33
Highmore, antrum, inflammation of.....	94, 96, 98, 120
Horse-back exercise.....	62
Hygienic measures, necessity of.....	25-30
Ill temper must be controlled.....	65
Importance of preventing colds.....	30
India rubber over-shoes.....	49
Influence of customs, habits and dress.....	25
Instructions to patients.....	26
Introduction.....	25
Inunction to the feet.....	52
Judd, Dr. Homer.....	122
Lecture room, colds taken in.....	55
Linen sheets and pillow cases.....	58
London Lancet.....	79, 93
Long hair.....	37
Lucaë ear injector.....	108
Lucaë, Dr.....	109
Mastoid cells.....	97
Medicated solution, why a benefit.....	74
Mental effects of tobacco.....	141
Mind, disposition of.....	63
Mits, woolen, for the hands.....	55
Morning "coughing spells".....	73

Morning sleep.....	59
Nasal douche, its inefficiency	83, 85
Nasal guard.....	104
Necessity for hygienic measures.....	25
Night air, colds incurred by.....	54
Night-caps	35
Night-sweats.....	58
Nubia.....	35
Number of nasal washings.....	75
Number of suits of under-clothing that should be worn...	45
Oil for the hair	37
Oil on the surface of the body.....	47, 130
Open window, colds taken by.....	54
Over-heating, colds taken by.....	54
Parting at the gate.....	56
Patients injured by the Weber nasal douche.....	96, 97, 98, 99
Petty acts of commission and omission, colds incurred by.	54
Piano, lesson in a cold room.....	56
Pine, to chew in the place of tobacco.....	163
Positions of the head in washing the ear.....	110, 114, 115, 116
Positions of the head in cleansing the nasal passages.....	69, 70, 72
Posterior nasal syringe.....	78
Precautions in cleansing the ears.....	117
Precautions in cleansing the nasal passages.....	69
Preface	vii
Protection of infants.....	36
Qualifications of the methods to cleanse the nasal passages.....	78
Quinine in the place of tobacco.....	163
Quinine to cure a cold.....	166
Quinsy in children.....	46
Removal of hardened secretions from the nostrils.....	77
Removal of semi-solid secretions from the nostrils.....	68
Removal of under-clothing.....	48, 77
Reservoir for washing the ear.....	112

Roosa, Dr.....	88
Rubber bands for exercise.....	62
Russian Bath.....	128
Salicylic acid.....	76, 106, 117, 118
Sanative measures....	68
Second position of the head in cleansing the nasal passages.....	70
Section of the external auditory canal and the middle ear..	113
Section of the head and face.....	82, 102
Shampooing.....	37
Shirt collars.....	38
Shoes and slippers.....	49
Short hair.....	36
Simpson, Sir J. Y.....	130
Sitting in a cold room.....	55
Skating rink in causing Catarrh.....	25
Sleeping-rooms, temperature and ventilation of.....	57
Solution for cleansing the ear.....	117
Solution to be inhaled into the nostrils.....	76
Solution used in cleansing the nasal passages.....	76
Solution, used in the catheter nasal douche.....	106
Sponge, in cleansing the nasal passages.....	72
Standing on the sidewalk.....	55
Stimulants.....	60
Stockings.....	49
Stockings, how held up.....	50
Stocking-knit drawers and vest.....	44
St. Louis Medical Society.....	96
Straw hats.....	33
Table of cases treated.....	152
Teeth.....	120
Temperature of bath.....	127
Temperature of sleeping-rooms.....	57
Theater, colds taken in.....	54
Third position of the head.....	72

Thudichum, Dr., of London.....	79, 81, 91, 93
Tinnitus aurium.....	120
Tobacco.....	141
“ a dialogue on.....	158
“ how to discontinue its use.....	157
“ its congesting effect.....	147
“ “ depressing effect.....	143
“ “ effects not transitory.....	145
“ “ exhilarating effect.....	141
“ “ local effect.....	150
“ “ mental and physical effects.....	141
“ “ permanent effect.....	149, 155
“ “ pleasurable effect.....	143
“ “ questionable effect.....	144
“ “ relaxing effect.....	155
Tonsils, enlarged in children	46
Turnbull, Dr. L.....	89, 90
Turkish bath.....	128
Under-clothing for adults and children	45
Under-clothing, frequent changes in.....	47
Vaseline.....	37
Vaseline for the feet.....	53
Vaseline for the surface of the body.....	129
Ventilation of bedrooms.....	58
Ventilation of the ear.....	118
Warming bed-pan.....	59
Weber nasal douche.....	79
Weber, Prof.....	79
Weight of under-clothing.....	45
Window sashes, raising and lowering.....	59
Woolen stockings.....	49
Woolen suits, when worn.....	45
Wrappings for the neck.....	38
Wristlets.....	55

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